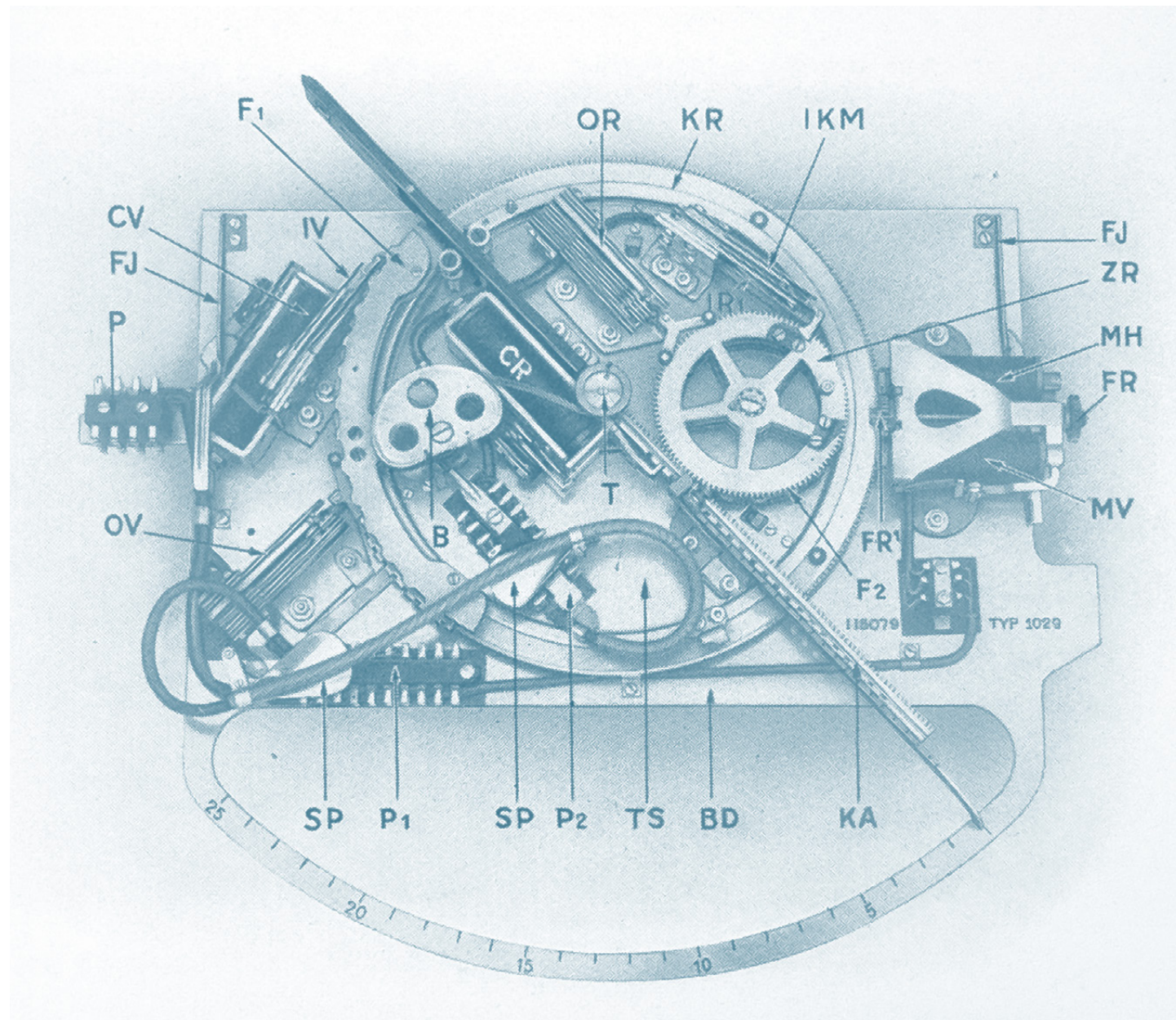


SIGNAL & NOISE

mf

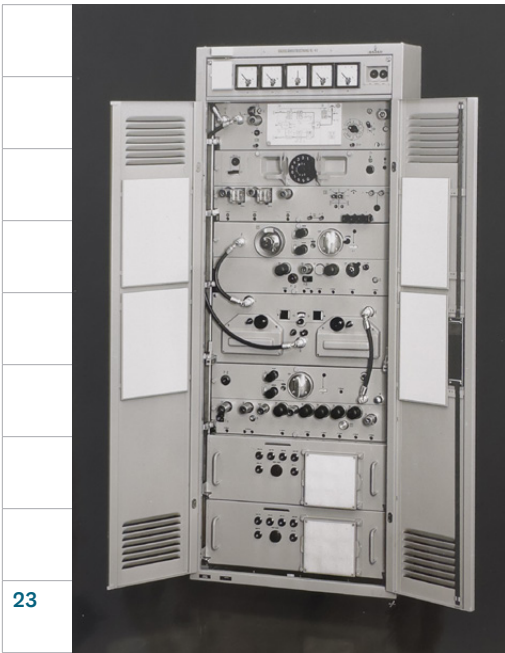


item 13

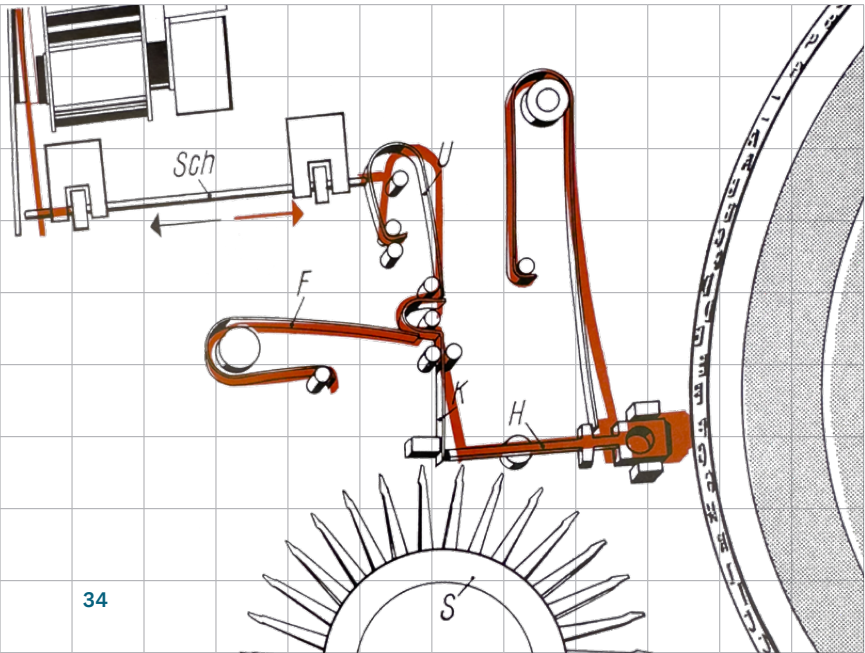
signal & noise

In this catalogue we explore the progression from telephone switchboards to computer networking. Please join us on a journey starting with telephone queuing theory and ending with the NSA—presented in forty objects, sorted by date, from 1880–2012.

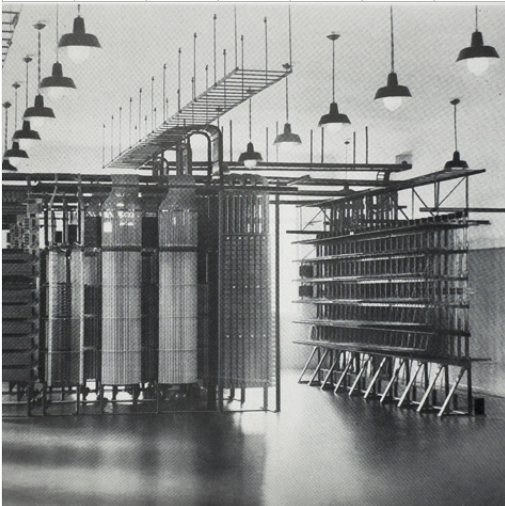
Mark K. Funke



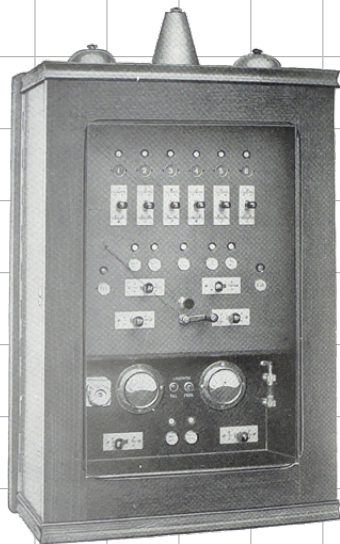
23



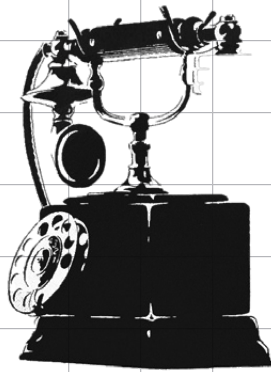
34



13



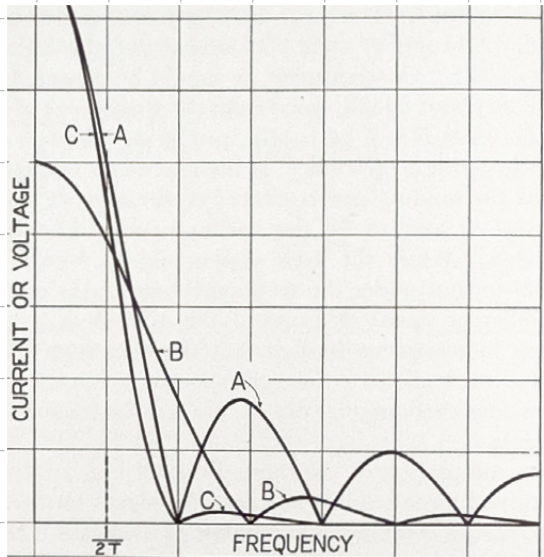
12



09



16



07

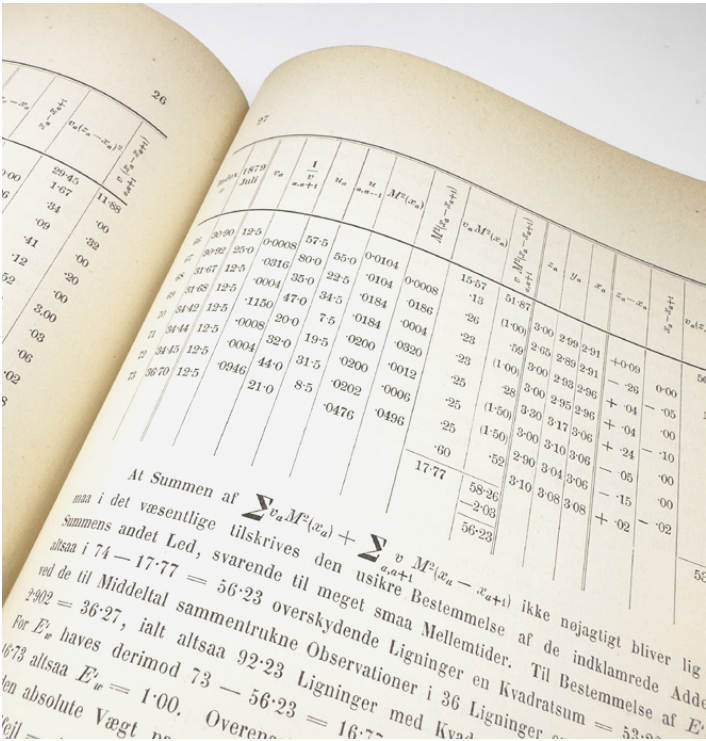
contents

01	On Measurements and Randomness	21	Inscribed by Herbert A. Simon
02	Logical Piano Schematics	22	Dutch Digital Computer
03	Inscribed Queuing Theory	23	Flight Radio Communication
04	1920s Telephone System in Argentina	24	Introducing IBM
05	1920s Telephone Systems in Latin America	25	IBM's First Best Seller
06	Lars Magnus Ericsson in Memoriam	26	French Analog-to-Digital Converters
07	Data Transmission Speed	27	Early Off the Shelf Computers
08	1926 Fire Alarm Trade Catalogue	28	1961 & 1962 Honeywell Brochures
09	Telephone Switching System in Detail (1927)	29	Swedish Jets, Mainframes & Cars
10	Telephone Switching System (1927)	30	French Magnetic Tape Data Readers
11	Quantitative Capacities of Systems	31	1962 Swedish Computer
12	1930 Fire Alarm System Catalogue	32	1962 Ferranti Computer Pamphlets
13	Telephone Switching System in Detail (1931)	33	French Analog Computers
14	Siemens Vault Security	34	1962 High Volume Printer
15	Bombay-Ahmedabad Telephone Cables et al.	35	Early Soviet Machine Translation
16	Advanced Telephone System Mathematics	36	"A Nice Jewish Computer"
17	Shewhart's Copy of Random Noise	37	AMPEX Sold State Storage & Magnetic Recorders
18	Cryptography as a Science	38	Kill the Computers; Save the Environment
19	Blackett's Copy of Theory of Communication	39	Homebrew Computer Club & Respect for Earth
20	Inscribed by the Originator of Cybernetics	40	Facebook = NSA

01 On Measurements and Randomness

Thiele, T.N. Om Anvendelse af mindste Kvadraters Methode i nogle Tilfaelde, hvor en Komplikation af visse Slags uensartede tilfaeldige Fejlkilder giver Fejlene en „systematisk“ Karakter. [On the application of the method of least squares to some cases, in which a combination of certain types of inhomogeneous random sources of errors gives these a “systematic” character].

Kjøbenhavn: B. Lunos Kgl. Hof.-Bogtrykkeri, 1880. 265 by 210 mm (10½ by 8¼ inches). Blue-green boards; 382–408. Offprint from *Det Kongelige Danske videnskabernes Selskabs Skrifter* vol. 12, no. 5. In Danish. Very good with pages browned and unopened at top.



Thorvald Thiele (1838–1910) was a Danish astronomer and mathematician. Thiele made notable contributions to the study of statistics and randomness.

Thiele describes the problem of determining the distance from Copenhagen to Lund (Sweden) and in the process solves the problem of estimating the regression coefficients and predicting the values of Brownian motion by the method of least squares (i.e. Kalman filtering). Thiele presents an algorithm that uses a series of measurements observed over time, including statistical noise and other inaccuracies, to produce estimates of unknown variables that tend to be more accurate than those based on a single measurement.

Oxford Professor Steffen Lauritzen wrote the following about Thiele:

His first paper on the method of least squares [the one on offer here] is a brilliant tour de force. There he derives both Brownian motion with independent and normally distributed increments and variances proportional to time as well as recursive computational procedures for filtering and prediction now known as the Kalman filter and smoother. He also derives iterative methods for estimating the ratio between system and measurement noise.

See also, Lauritzen “Time Series Analysis in 1880: A Discussion of Contributions Made by T.N. Thiele” *International Statistical Review* 49 (1981), pp. 319–331.

Scarce with no other copies for sale at the time of cataloguing and no auction records in Rare Book Hub. OCLC locates merely two copies of this offprint in American institutions: UC Berkeley and the American Institute of Physics.

\$950

02 Logical Piano Schematics

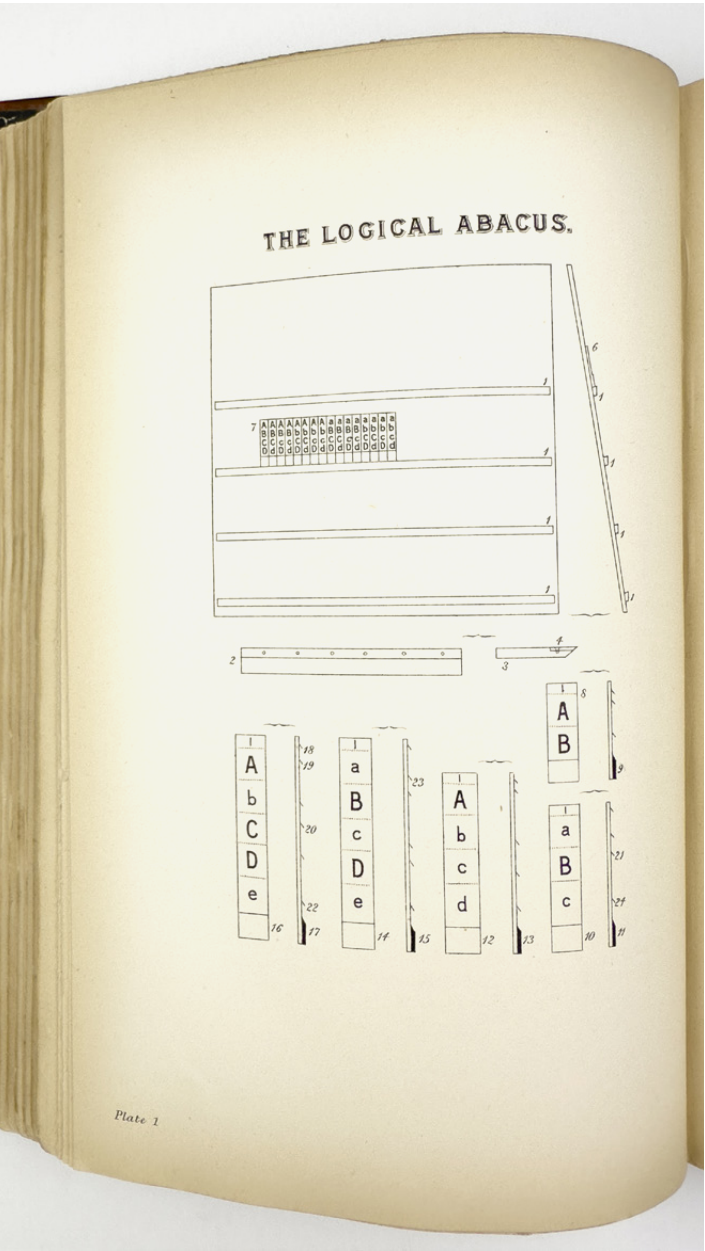
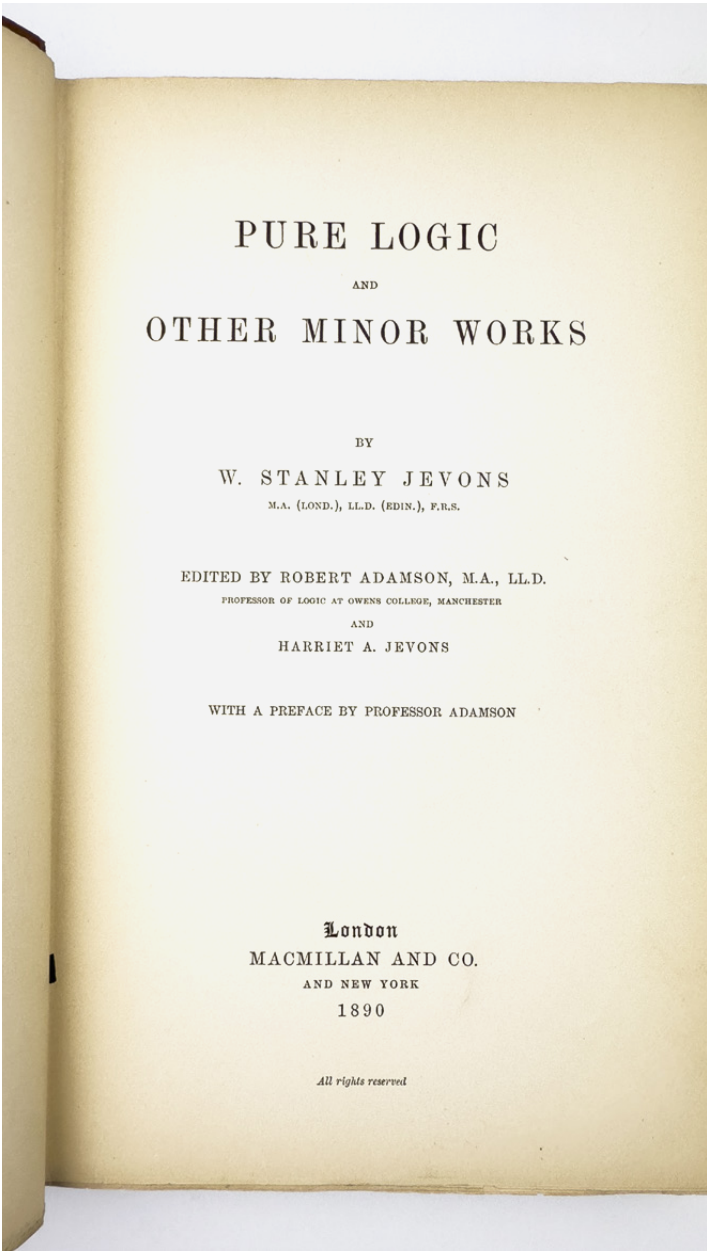
Jevons, Stanley W. Pure Logic and Other Minor Works.

London: Macmillan and Co., 1890. 230 by 150 mm (9 by 6 inches). Original pebbled publisher's cloth; xxv, 299 pp. First edition. Very good, except interior gutter split along lower edges and carefully re-glued.

Stanley W. Jevons (1835–1882) was an English logician, economist, and inventor in 1874 of the “logical piano”—a predecessor to the computer. This is a collection of Jevons's important essays on logic. The first half of the book gathers four essays published between 1864 and 1870, while the second half is devoted to a five-part investigation and critique of John Stuart Mill's philosophy—the final part appearing here for the first time.

Jevons work on logic made important advances on the theories and calculus proposed by Boole in 1854, most especially, taking Boole's conceptual framework and translating it into a mechanical operation (the “logical piano”). This precursor of the computer is depicted on numerous plates in the book.

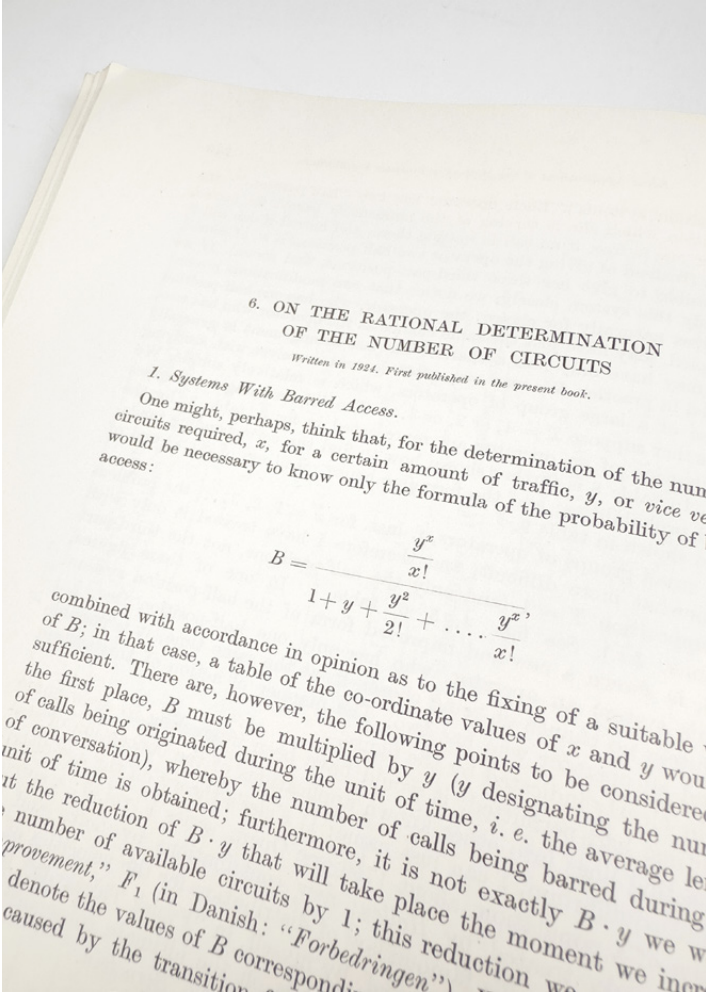
\$95



03 Inscribed Queuing Theory

Erlang, A.K. Løsning af nogle Problemer fra Sandsynlighedsregningen af Betydning for de automatiske Telefoncentraler. [Solution of Some Problems in the Theory of Probabilities of Significance in Automatic Telephone Exchanges].

Copenhagen: J. Jørgensen, 1917. 250 by 165 mm (9¾ by 6½ inches). Original printed wrappers; 21 pp. Offprint of the January issue of *Elektroteknikeren* [The Electro-Technician]. With a dedication from Erlang to N.R. Jørgensen on the title page. In Danish.



Together with the 1948 biography *The Life and Works of A. K. Erlang* by Brockmeyer, Halstrøm, and Jensen; original wrappers with dedication from Arne Jensen to the statistician Anders Hald (author of *A History of Mathematical Statistics*). Besides an extensive biography and treatment of Erlang's work, this book contains an English translation of all of Erlang's principal publications (including the offprint on offer).

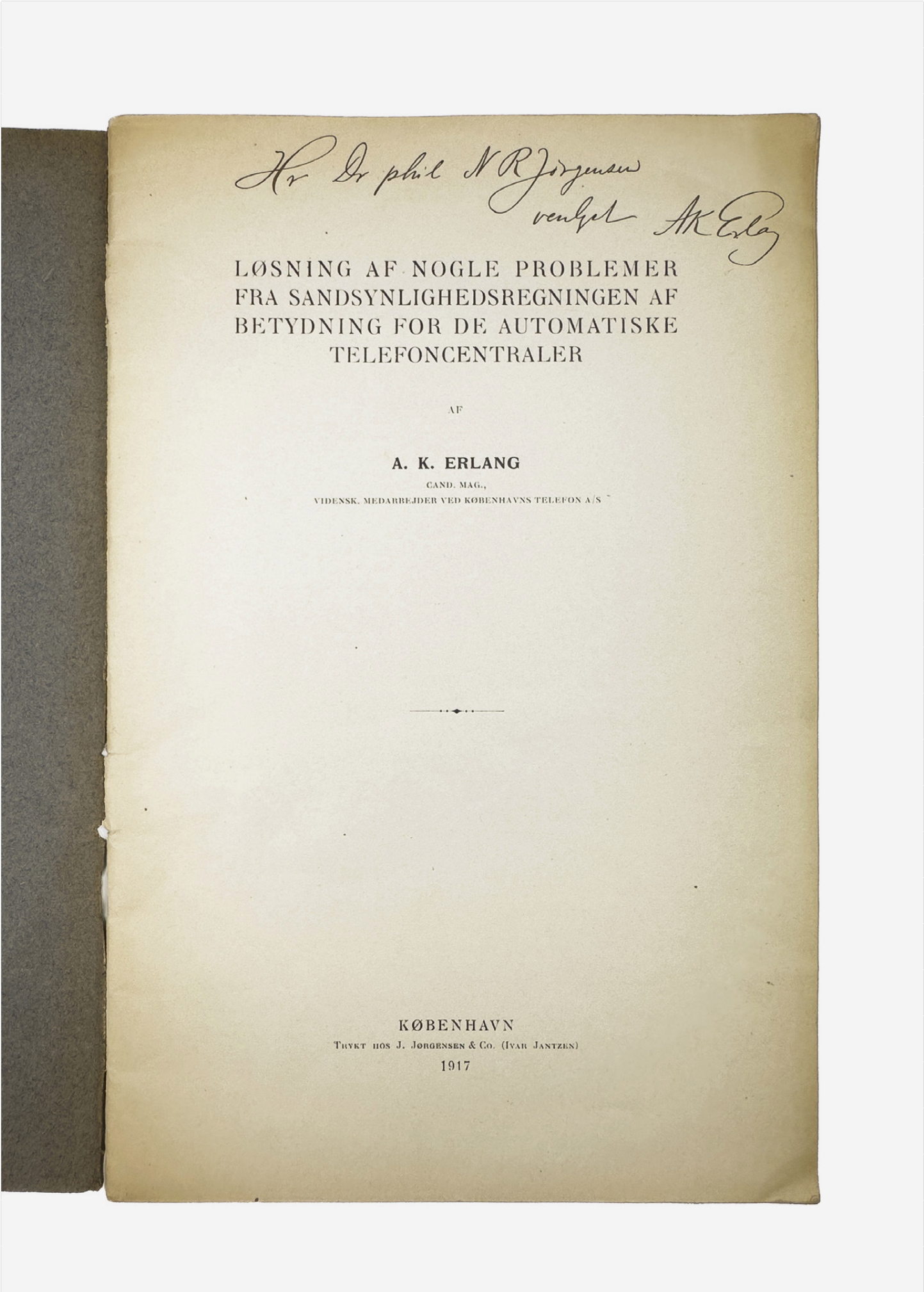
Offprint good with wrappers split. *The Life and Works of A.K. Erlang*, very good.

First edition, offprint issue, with dedication from the author of unarguably the most famous paper in queuing theory. Exceedingly scarce, with no other copies currently on the market, no auction records in Rare Book Hub, and OCLC locating only the copy at the Danish National Library. This offprint edition apparently not found in any North American institution.

Agner Krarup Erlang (1878–1929) received his degree in mathematics in 1901 from the University of Copenhagen. He started in 1908 at The Copenhagen Telephone Company as a scientific collaborator. It was here that he began his ground-breaking work in the theory of telephone traffic. In his first published paper in 1909, Erlang proved that the number of telephone calls to a central station follow the Poisson distribution. In his next and most important publication (i.e. the one available in this catalogue) he studies the loss problem and waiting time problem.

In 1918 an English and German translation of the paper was published. It is rumored that at least one engineer at Bell Labs learned Danish merely to read Erlang's works in their original language. In 1946 the international unit of telephone traffic was named "Erlang" in his honor. Erlang's work applies not only to telephone systems, but to computer network traffic. He is considered the founder of traffic engineering and queuing theory.

\$1,500



04 1920s Telephone System in Argentina

The L.M. Ericsson Review. Vol. 1. May–June 1924. Nos. 5 & 6. English Edition.

Stockholm: L.M. Ericsson, 1924. 270 by 220 mm (10¾ by 8¾ inches). Magazine; 50–72 pp. Technical specifications and photo illustrations of telephone network systems throughout.

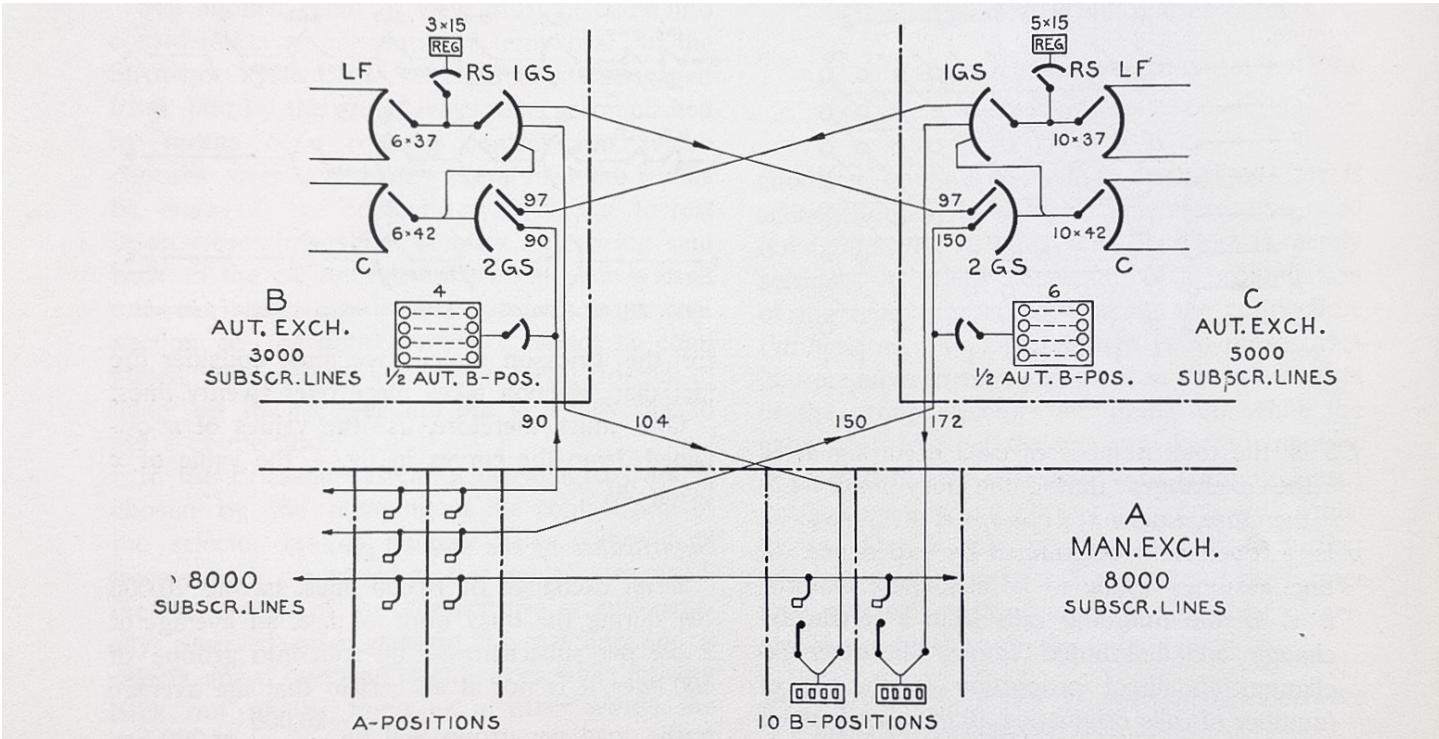
Copies of this Ericsson publication from the 1920s are quite scarce. On the cover is a photo illustration of the Johannesburg telephone exchange equipment. Articles include household tariff meters; calculation of switches for automatic telephone exchanges; and a 5-page article on the telephone system in Argentina, which Ericsson won the contract to construct.

\$250

Ericsson

The Swedish telecommunications company Ericsson was founded in 1876, and outside of the United States—where the market was controlled by “the Bell system”—quickly rose to a multi-national corporation installing telephone infrastructure worldwide. In 1923, Ericsson manufactured the first telephone switch system capable of handling 500 lines. In 1931 Ericsson invented the first combined telephone set with housing and handset from Bakelite in a form reminiscent of American telephones of the 1980s. The company continued innovating, and more recently invented Bluetooth technology.

We are pleased to offer items in this catalogue documenting Ericsson’s contributions to the history of telephone systems and computers. The networks of early telephone systems were a precursor to modern computer networking.



From exchange No. 1 to exchange No. n
$$p \times \frac{s_1 \times c_1 \times s_n \times c_n}{CS}$$
 where
 $c_1, c_2 \dots c_n$ is the number of subscribers connected to the respective exchanges,
 $s_1, s_2 \dots s_n$ is the number of calls per subscriber occurring at the respective exchanges during the busy hour,
 $H \rightarrow$
 $G \rightarrow$
 $F \rightarrow$
 $E \rightarrow$
 $D \rightarrow$
 $C \rightarrow$
 $B \rightarrow$
 $A \rightarrow$
 $1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10$
Fig. 7. Staggered Multiple.
 CS is the total number of calls occurring at all the exchanges during the busy hour. CS , therefore, equals $s_1 \times c_1 + s_2 \times c_2 + \dots + s_n \times c_n$.
 p is a coefficient determined by experience. If one assumes traffic to be absolutely uniform, i. e. if the outgoing calls from a certain exchange are distributed among the other exchanges in direct proportion to the size of (number of calls originating at) these exchanges, the coefficient $p = 1$. Experience has proved, however, that traffic is seldom uniform, as sometimes a greater part and sometimes a lesser part of the traffic determined by the proportion between the exchanges is retained within the exchange where it originated. It is impossible to give any approximate values of p as, in each case, this value depends upon several factors, such as the different character of the exchanges and the character of their subscribers.
between 0.5 and 1.5, and 0.75 may be taken as a mean value.
The number of outgoing speaking minutes from each exchange may now be determined by multiplying the values for the number of calls — calculated by means of the formulae herein — with the length of the calls.
When determining the number of trunk lines
 $1PS \quad 2PS \quad 1G5 \quad 2G5 \quad 3G5 \quad 4G5 \quad C$
 $a \rightarrow \left(\frac{1PS}{200000} \right) \left(\frac{2PS}{200000} \right) \left(\frac{1G5}{100000} \right) \left(\frac{2G5}{100000} \right) \left(\frac{3G5}{100000} \right) \left(\frac{4G5}{100000} \right) \left(\frac{C}{100000} \right) \rightarrow a$
 $1LF \quad 2LF \quad 1G5 \quad 2G5 \quad 3G5 \quad C$
 $b \rightarrow \left(\frac{1LF}{100000} \right) \left(\frac{2LF}{100000} \right) \left(\frac{1G5}{100000} \right) \left(\frac{2G5}{100000} \right) \left(\frac{3G5}{100000} \right) \left(\frac{C}{100000} \right) \rightarrow b$
 $LF \quad 1G5 \quad 2G5 \quad C$
 $c \rightarrow \left(\frac{LF}{200000} \right) \left(\frac{1G5}{100000} \right) \left(\frac{2G5}{100000} \right) \left(\frac{C}{100000} \right) \rightarrow c$
Fig. 8. A 200,000-Line Plant According to Various Systems.
for the Ericsson system, we must consider the fact that selection takes place over twenty lines
One must, therefore, use the values of u obtained from the curves in fig. 4, the value of p being 20.
Significance of the size of groups.
If an exchange of 10,000 lines, having 20,000 Sm during the busy hour — i. e. an average of 2 Sm per subscriber — be split into groups of 100 lines, it is not at all certain that the average traffic load per group will be $\frac{20,000}{100}$ or 200 Sm as it is possible for the loads in different or hundreds groups to vary quite extensively, one group having 250 Sm , for example, while another group may not have more than 125 Sm . Should we choose still smaller groups, the variation between them will be still larger. It is therefore necessary to consider the size of the group when calculating the number of switches required for systems designed with individual contact

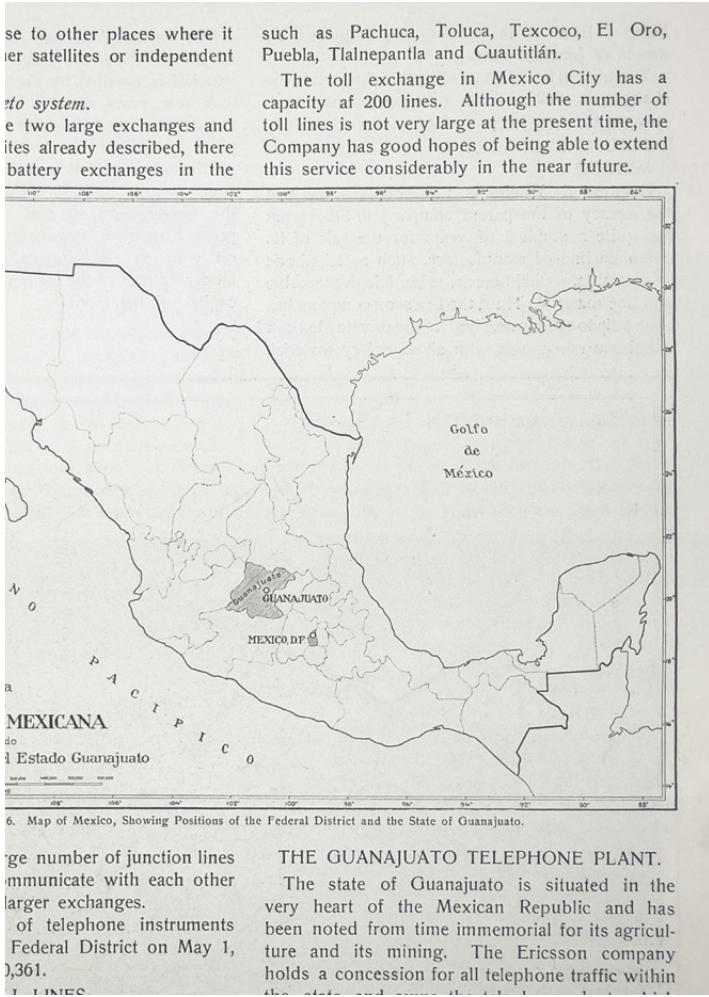
05 1920s Telephone Systems in Latin America

The L.M. Ericsson Review. Vol. 3. March–April 1926. Nos. 3 & 4. English Edition.

Stockholm: L.M. Ericsson, 1926. 270 by 220 mm (10¾ by 8¾ inches). Magazine; 26–47 pp. Technical specifications and photo illustrations of telephone network systems throughout.

Copies of this Ericsson publication from the 1920s are quite scarce. On the title page is a photo illustration of the “victorious Ericsson rowing team of the Chile telephone company.” Articles include 11 pages on Ericsson’s Mexican subsidiary; selling fish over the phone; notes of interest from Chile; and two further short articles on Mexico and Chile.

\$250



ge number of junction lines
mmunicate with each other
larger exchanges.
of telephone instruments
Federal District on May 1,
0,361.
L. LINES

THE GUANAJUATO TELEPHONE PLANT.
The state of Guanajuato is situated in the very heart of the Mexican Republic and has been noted from time immemorial for its agriculture and its mining. The Ericsson company holds a concession for all telephone traffic within the state and some of the telephone lines



06 Lars Magnus Ericsson in Memoriam

The L.M. Ericsson Review. Vol. 3. September–December 1926. Nos. 9 to 12. English Edition.

Stockholm: L.M. Ericsson, 1926. 270 by 220 mm (10¾ by 8¾ inches). Magazine; 102–144 pp. Technical specifications and photo illustrations of telephone network systems throughout.

Copies of this Ericsson publication from the 1920s are quite scarce. On the title page is a photo illustration of Lars Magnus Ericsson’s birthplace (he passed away in December 1926). Articles include a lengthy obituary for Mr. Ericsson; the toll traffic problem in European exchanges; the new Rotterdam telephone exchange; communications in Italy; and, railway switching systems in Sweden.

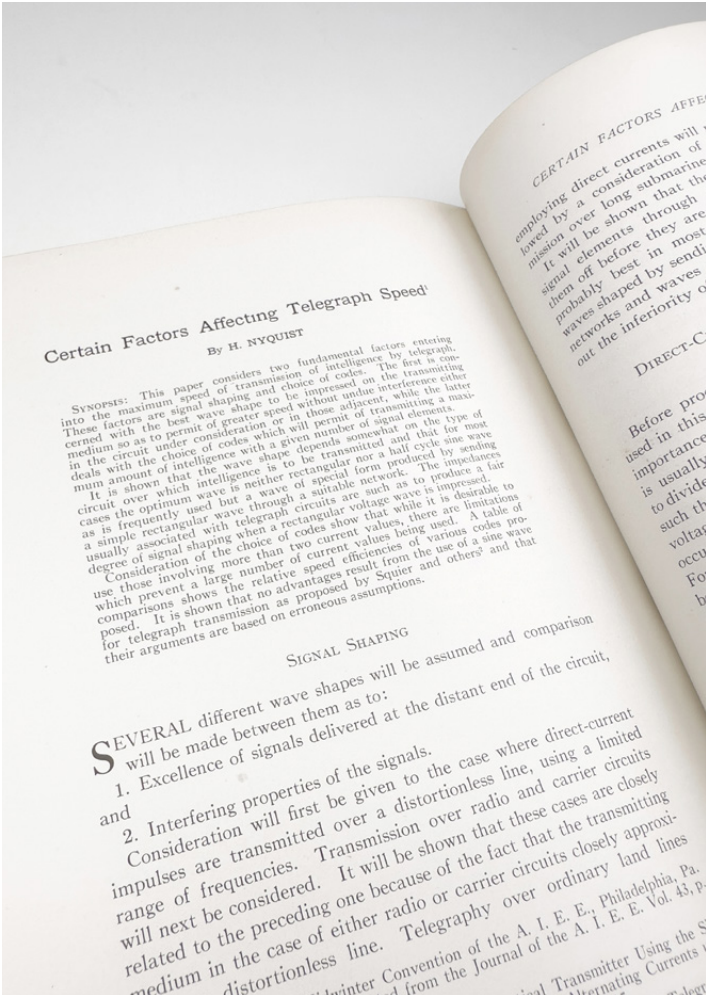
\$250



07 Data Transmission Speed

Nyquist, Harry. **Certain Factors Affecting Telegraph Speed** [in *The Bell System Technical Journal*, Volume III, No. 2, p. 324–346].

New York: American Telephone and Telegraph Company, April, 1924. 250 by 170 mm (9¾ by 6¾ inches). Complete issue in original wrappers. First edition. First printing. Very good with light soiling to wrappers and tear damage to back wrapper.



Harry Nyquist (1889–1976) was a Swedish-American physicist at Bell Labs. His early theoretical work on determining the bandwidth requirements for transmitting information set forth in this article laid the foundations for later advances by Claude Shannon. Shannon credits Nyquist (together with Hartley) as forming “the basis” of his theories. In this important article Nyquist isolated two key factors—signal shaping and choice of codes—as impacting the speed of data transmission.

Hook and Norman *Origins of Cyberspace*, No. 343.

\$950

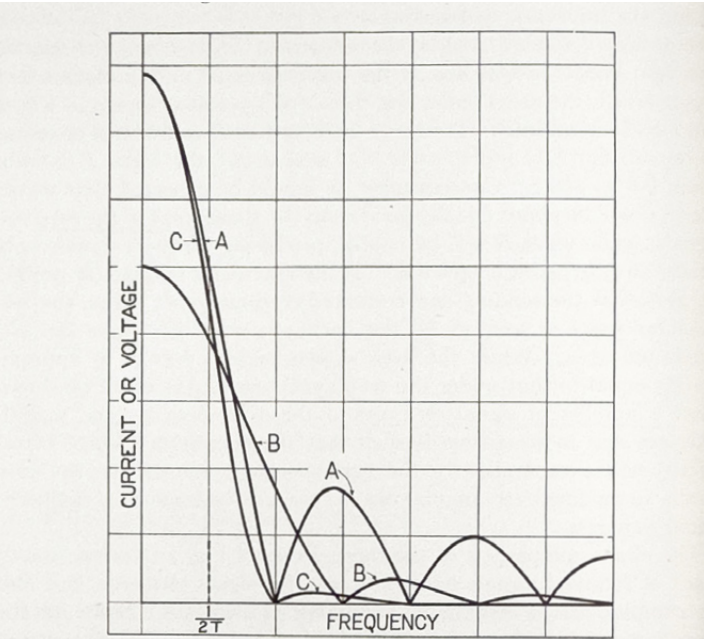
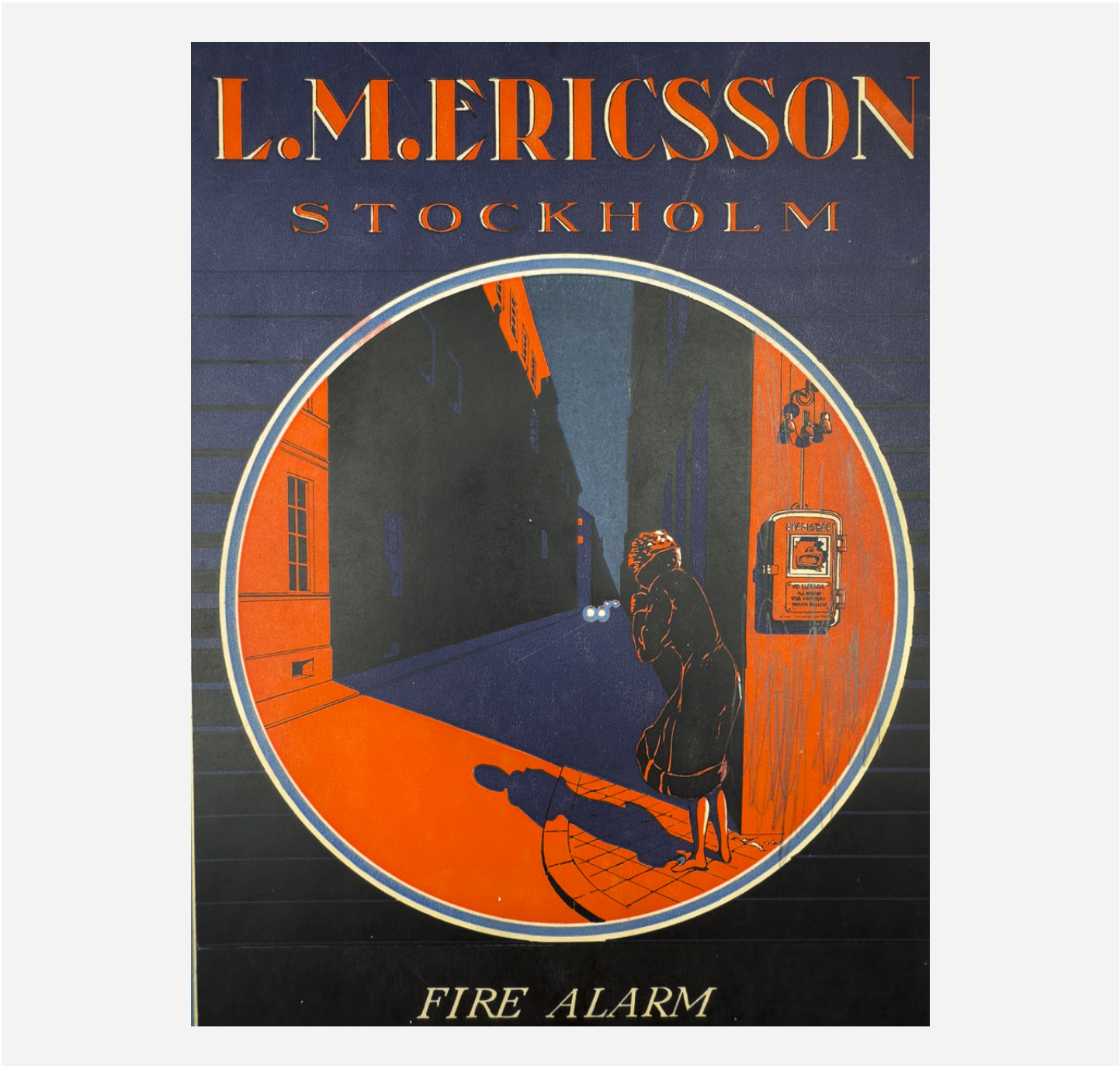


Fig. 2
A—Frequency Components of a Single Dot, Rectangular Wave
B—Frequency Components of a Single Half Cycle of a Sine Wave
C—Frequency Components of a Single Dot, Rectangular Wave Passed through Network Shown in Fig. 1

sponding waves in Fig. 1, *A* being the components of an isolated rectangular wave, *B* the corresponding components for the half-cycle sine wave, and *C* those for the rectangular wave after it has been transmitted through the network *D* in Fig. 1. It is seen from Fig. that the rectangular wave form *A* contains the greatest amount of currents of higher frequencies and is, therefore, the poorest from the standpoint of interference. The half-cycle sine wave contains

08 1926 Fire Alarm Trade Catalogue



Fire Alarm Apparatus.

Stockholm: Allmänna Telefonaktiebolaget L.M. Ericsson, 1926. 295 by 220 mm (11½ by 8¾ inches). Illustrated original folder with brad binding; [22] lvs with three fold-out technical diagrams. All dated March or April 1926. "Section TH". The lovely black and red cover illustration with pencil markings.

Technical and heavily illustrated trade catalogue of Ericsson's fire alarm system. The catalogue covers fire alarm boxes, keys for the boxes, station apparatus, code signaling system, fire alarm bells, morse receiver for fire stations, and the portable testing telephone.

\$250

09 Telephone Switching System in Detail (1927)

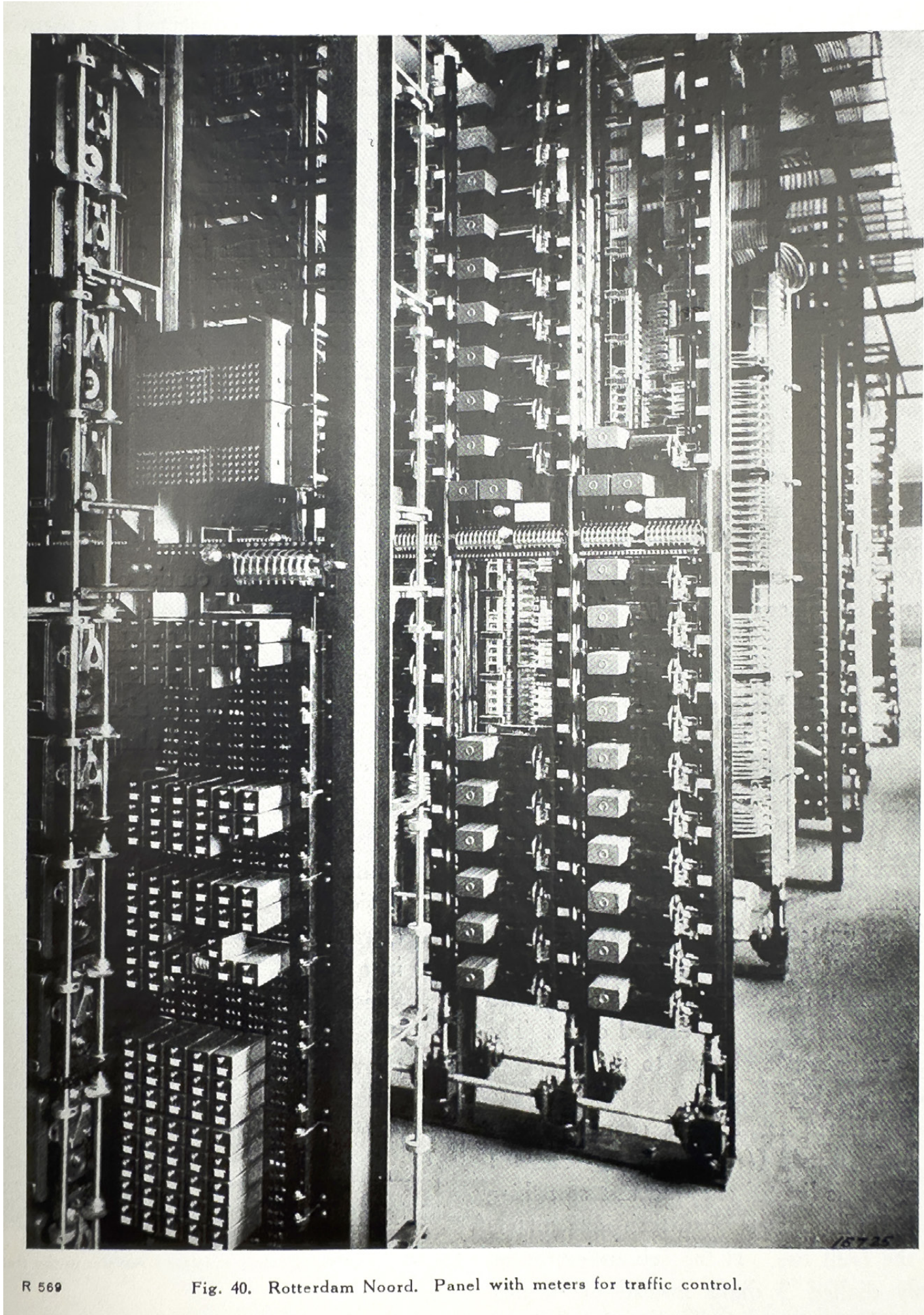
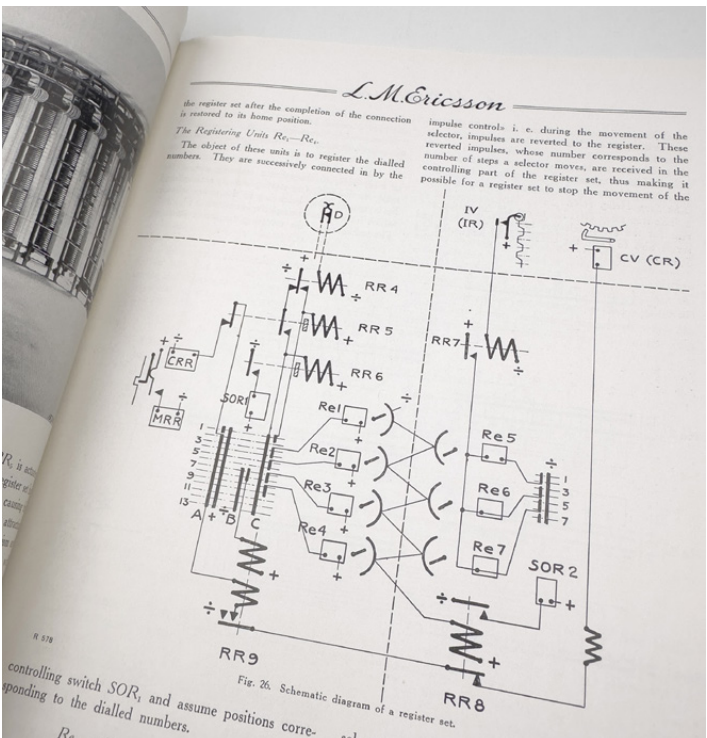
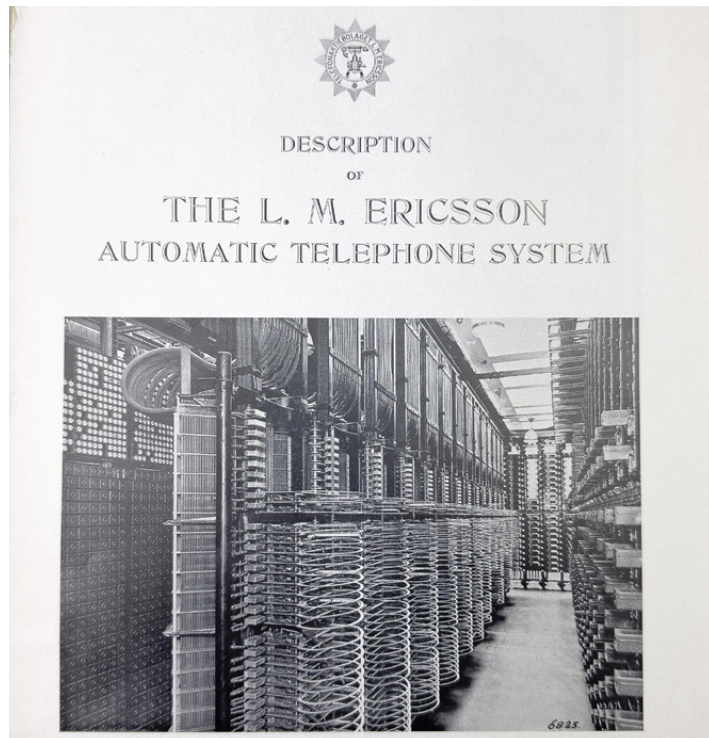
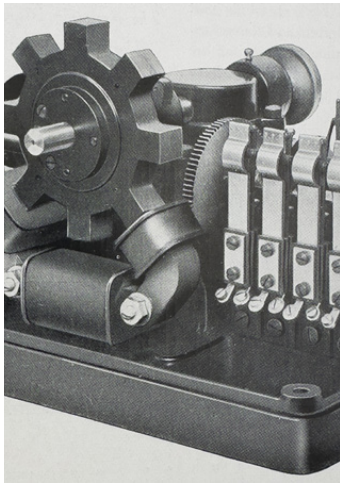
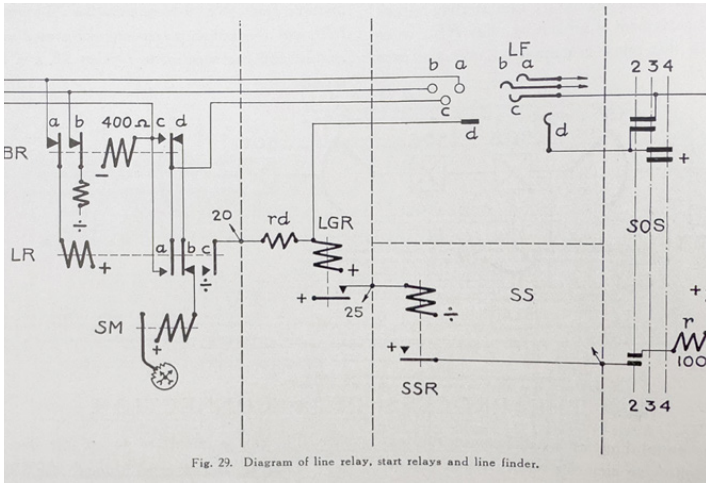
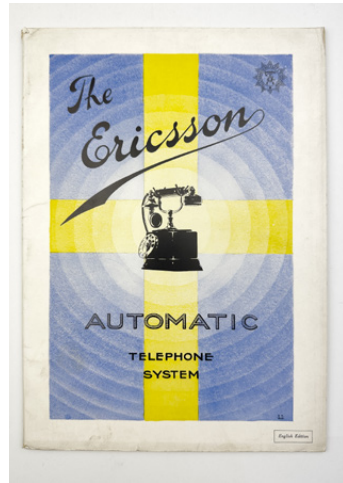
Description of the L.M. Ericsson Automatic Telephone System. English Edition.

Stockholm: L.M. Ericsson, 1927. 295 by 210 mm (11½ by 8¼ inches). Original illustrated wrappers; 39 pp. Thoroughly illustrated throughout with photographs and technical illustrations. Wear to extremities.

Ericsson revolutionized the world of automated telephone switching, which allowed society to move away from manually connected calls. This publication discusses at length their invention with technical detail. This system was Ericsson's initial claim to fame and resulted in major contracts worldwide. The information was initially published in Nos. 1, 2, 7 & 8 of Vol. 1 of *The L.M. Ericsson Review* and then expanded for this publication.

This item is quite different from the later *LM Ericsson's automatic telephone system with 500-line selectors*. The 1944 edition of that book has only 2 holdings in OCLC (all in Europe). This 1927 publication on the same topic is unrecorded in OCLC and there are no other copies currently in the trade. Interestingly, some of the technical specifications in our book were omitted from later publications.

\$495



10 Telephone Switching System (1927)

L.M. Ericssons Selbstanschluss-system. Erfahrungen am Stockholmer Fernsprechnet über die Betriebssicherheit under den Unterhalt des Systems. [L.M. Ericsson's automatic telephone switching system. Experiences with the Stockholm telephone system about operational safety and system maintenance].

Stockholm: L.M. Ericsson, 1927. 295 by 210 mm (11½ by 8¼ inches). Brochure; 7 pp. In German. Offprint out of *The L.M. Ericsson Review*, No. 7–9, Year IV, 1927. With illustrations and tables. Wear to extremities.

Ericsson revolutionized the world of automated telephone switching, which allowed society to move away from manu-ally connected calls. This offprint discusses they company's invention and success moving from a manual operator based switchboard to an automated system. This system was Ericsson's initial claim to fame and resulted in major contracts worldwide.

This offprint quite scarce as we were not able to locate any copies in OCLC.

\$150

11 Quantitative Capacities of Systems

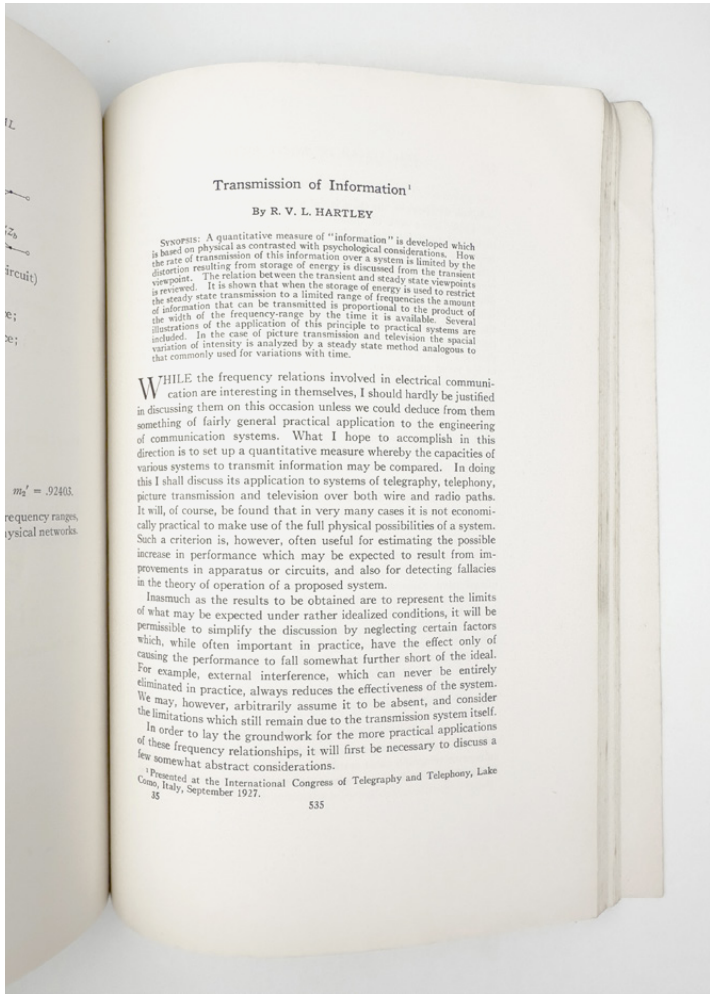
Hartley, Ralph V.L. Transmission of Information [in *The Bell System Technical Journal*, Volume VII, No. 3, p. 535–563].

New York: American Telephone and Telegraph Company, July, 1928. 250 by 170 mm (9¾ by 6¾ inches). Complete issue in original wrappers. First edition. Very good with light soil-ing to wrappers and damage to pages 604–605 (in the article by Affel).

First printing of one of the foundational works in information theory. In the opening paragraph of his landmark paper, “A Mathematical Theory of Communication,” Claude Shannon credits Hartley’s “Transmission of Information” (along with the work of Nyquist) as forming “the basis” for his theories. R.V.L. Hartley (1888–1970) was a research engineer at Bell Labs and the inventor of the Hartley oscillator. He was one of the first to make progress in quantitatively measuring the capacities of various types of information systems—telephone, telegraph, television, etc.—to transmit information.

Hook and Norman *Origins of Cyberspace*, No. 316.

\$750



12 1930 Fire Alarm System Catalogue

Automatische Feuermelde-Anlagen.
[Automatic Fire Alarm Systems].

Vienna: Ericsson Ö.E.A.G., 1930. 210 by 150mm (8¼ by 6 inches). Illustrated original wrappers; 20 pp. In German. With eight illustrations of fire alarm components and a striking cover image.

The Austrian subsidiary of Ericsson published this 1930 marketing brochure for automatic remote fire-alarm systems designed for warehouses, office buildings, museums, and exhibition halls.

\$125



13 Telephone Switching System in Detail (1931)

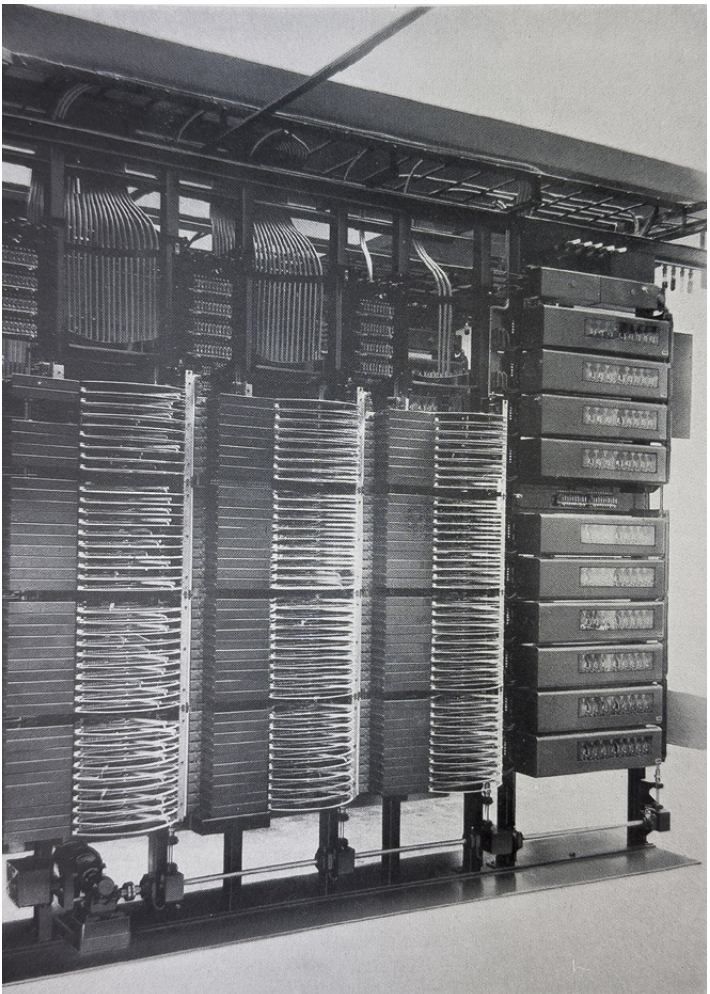
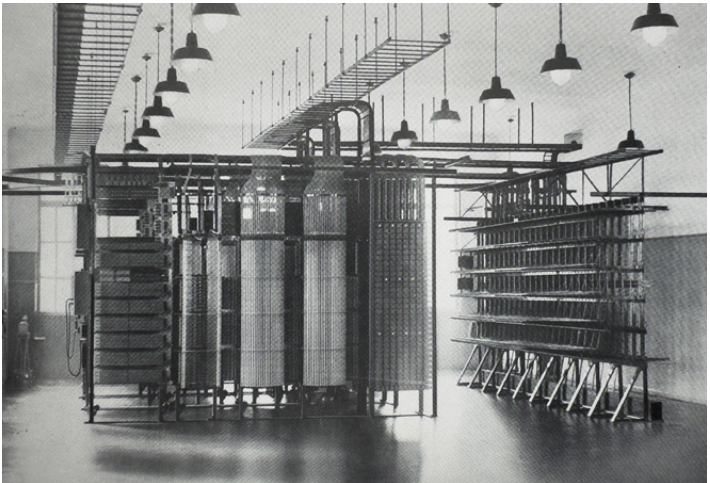
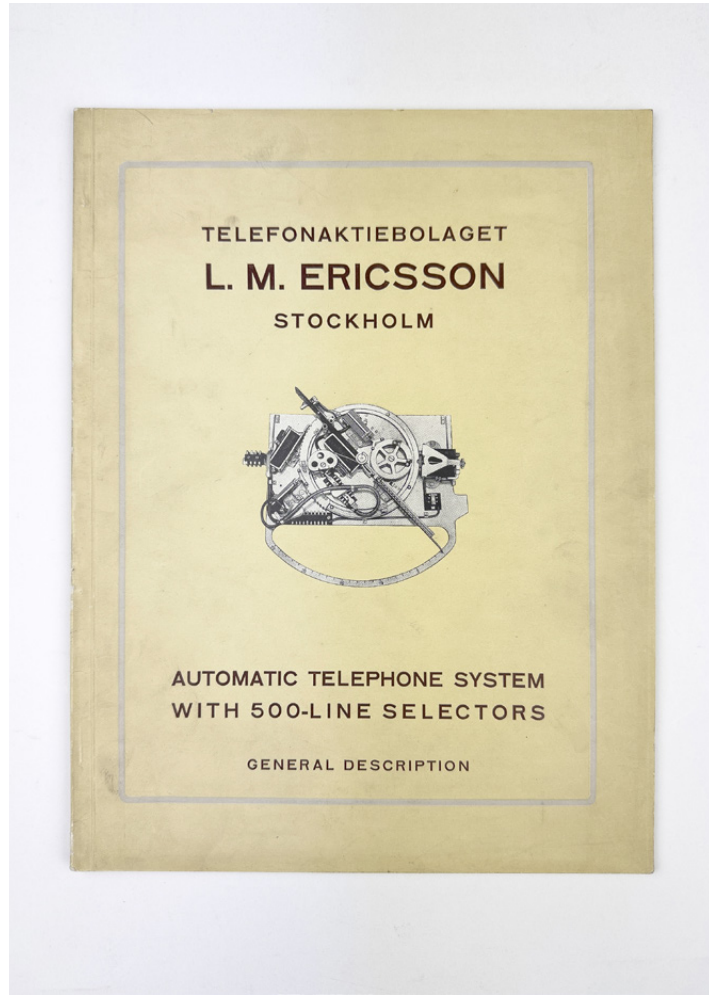
Automatic Telephone System With 500-Line Selectors. General Description.

Stockholm: L.M. Ericsson, 1931. 295 by 210 mm (11½ by 8¼ inches). Original illustrated wrappers; 47 pp. Thoroughly illustrated throughout with photographs and technical illustrations. Along with seven beautiful full-page photo illustrations of the system.

Ericsson revolutionized the world of automated telephone switching, which allowed society to move away from manually connected calls. This book discusses at length their invention of the 500-line switching system. This system was Ericsson's initial claim to fame and resulted in major contracts worldwide.

This book is not in OCLC and there are no other copies currently in the trade. The 1944 edition of this book (with 79 pages) has only 2 holdings in OCLC (all in Europe).

\$395



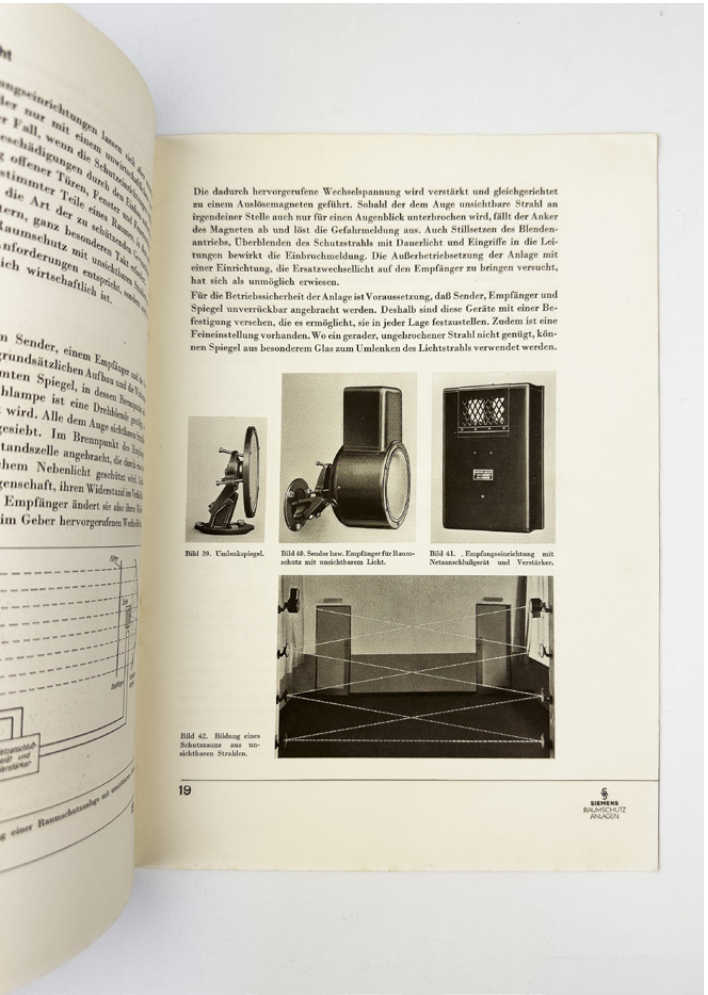
14 Siemens Vault Security

Siemens Raumschutzanlagen. Elektrische Sicherungen gegen Einbruch und Überfall. [Siemens Room Protection Systems. Electrical Protection Against Burglary and Robbery].

Vienna: Siemens & Halske AG, [1935?]. 295 by 205 mm (11½ by 8 inches). Staple bound original illustrated wrappers; 24 pp. In German. Heavily illustrated with bank vault and jewelry store alarm system components. Slight discoloration to wraps.

Trade catalogue with lovely details of vault security systems by Siemens Austria. Covers various light ray systems; hidden alarm buttons; remote notification systems; alarm bells—etcetera. Everything you need to keep your gold, silver & jewelry secure from burglary and robbery.

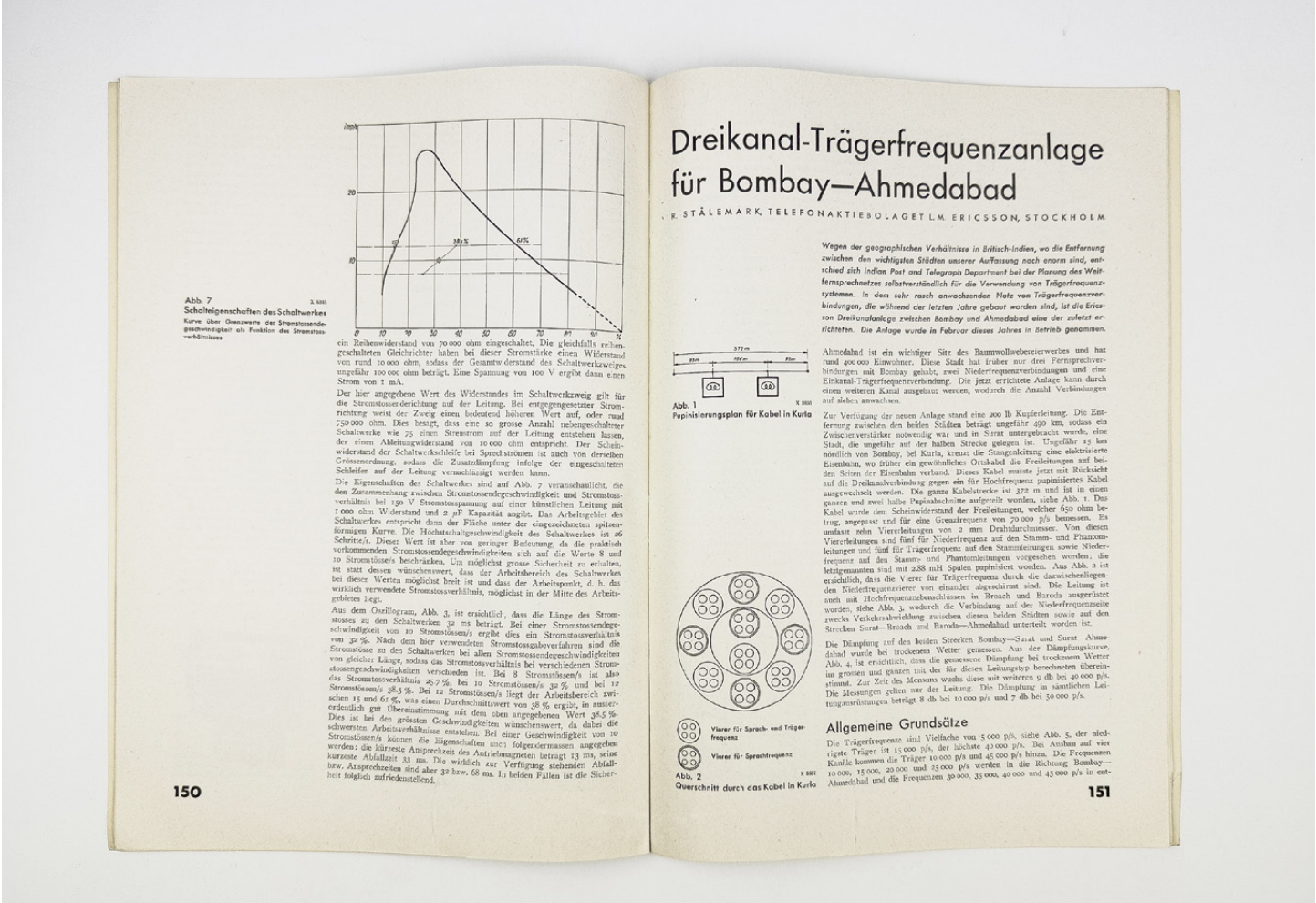
\$250



15 Bombay-Ahmedabad Telephone Cables et al.

Ericsson Review. No 4. 1936.

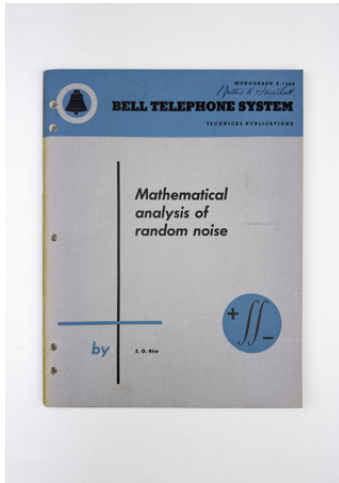
Stockholm: L.M. Ericsson, 1936. 295 by 210 mm (11½ by 8¼ inches). Magazine; 125–168 pp. In German. Technical specifications and photo illustrations of telephone network systems throughout. Tear to bottom 2 inches of 4 lvs.



17 Shewhart's Copy of Random Noise

Rice, Stephen. **Mathematical Analysis of Random Noise** [Parts 1 and 2] [Offprint from *The Bell System Technical Journal*, volume 23, pp. 282–332 and volume 24, pp. 46–156].

New York: Bell Telephone Laboratories, Inc., 1944–1945. 270 by 210 mm (10¾ by 8¼ inches). Original printed wrappers with holes punched (as issued). Near fine with Walter A. Shewhart's signature on front wrapper.



Stephen O. Rice (1907–1986) was an American mathematician who worked for Bell Labs nearly 40 years. This, his best-known paper, is a classic reference work in the field of randomness. Claude Shannon in his 1948 paper “A Mathematical Theory of Communication” built on Rice's theories. Shannon wrote: “In the present paper we will extend the theory to include a number of new factors, in particular the effect of noise in the channel...” – a subject extensively dealt with in Rice's paper on offer here.

This copy belonged to Walter Shewhart (1891–1967) and bears his autograph. Shewhart is referred to as the “grandfather of statistical quality control.” He invented the Shewhart control cycle (also known as the PDCA methodology). Shewhart and Rice were colleagues at Bell Telephone Laboratories.

\$295

18 Cryptography as a Science

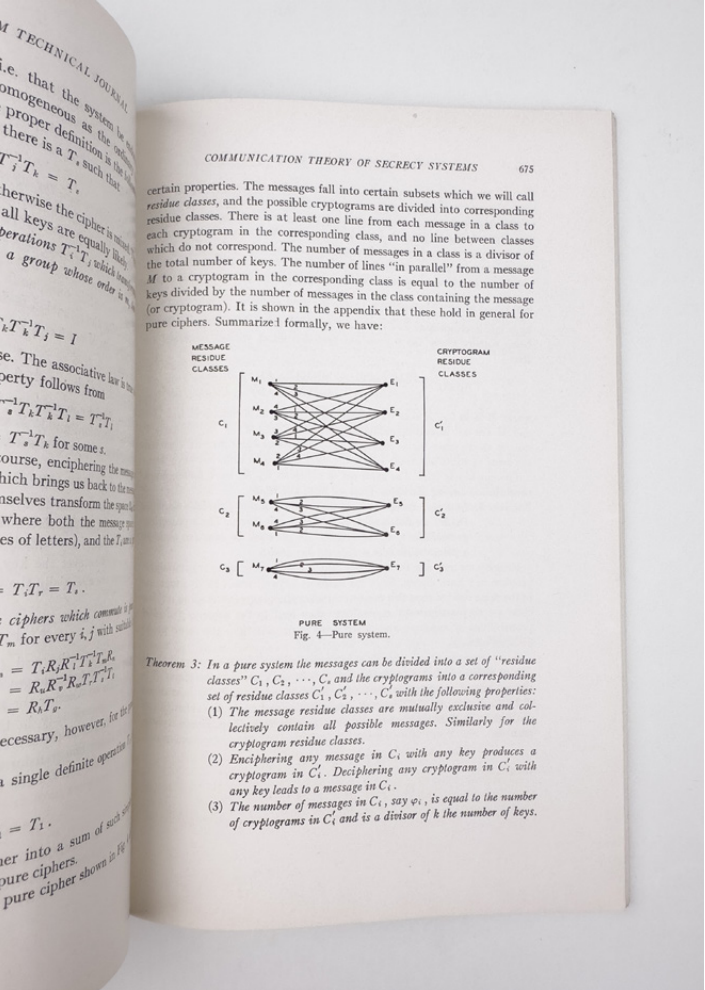
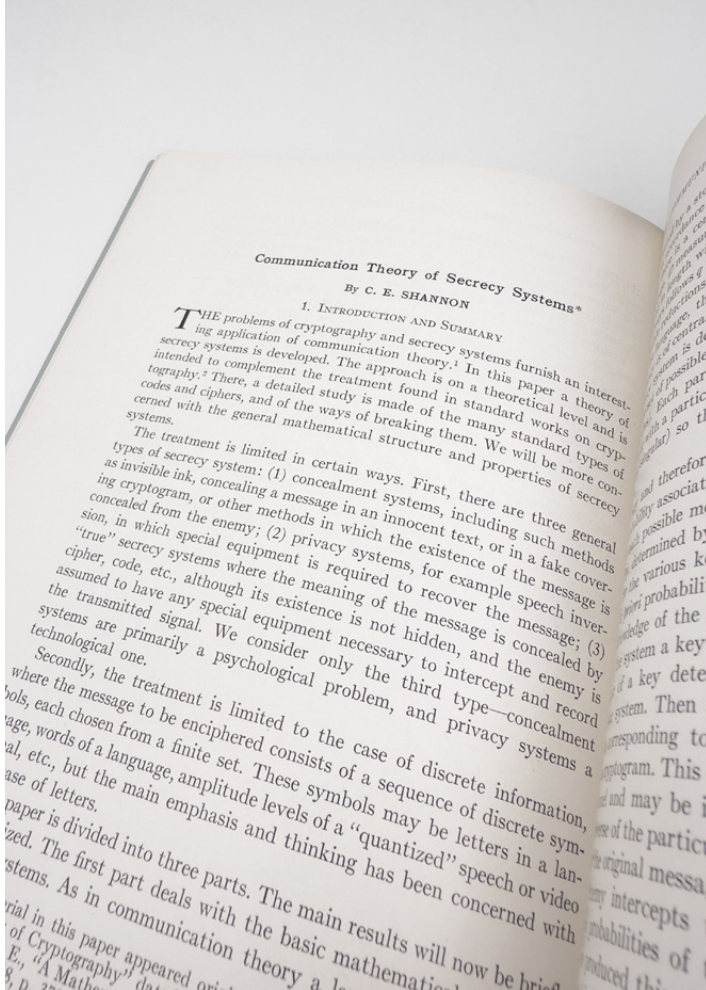
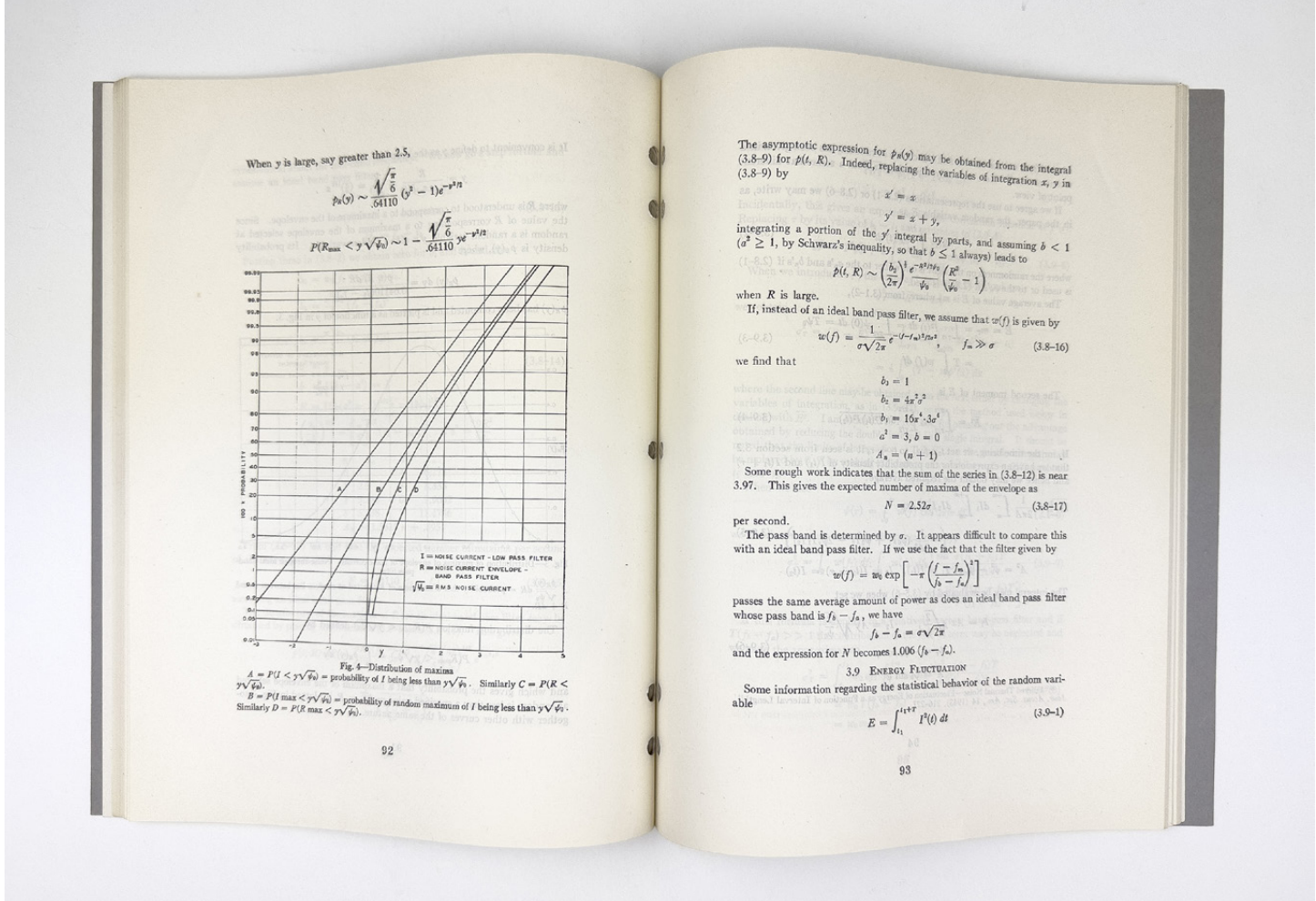
Shannon, C.E. **Communication Theory of Secrecy Systems** [in *The Bell System Technical Journal*, Volume XXVIII, No. 4, p. 656–715].

New York: American Telephone and Telegraph Company, October, 1949. 225 by 150 mm (8¾ by 6 inches). Complete issue in original wrappers. First edition. Near fine, but for minor spotting to wrappers.



One of the most important papers in cryptography. Authored by Claude Shannon (1916–2001), American mathematician, computer scientist and “father of information theory.” The material in this paper was originally developed during the Second World War and appeared in a confidential report under the title “A Mathematical Theory of Cryptography,” dated September 1, 1945. Before and during the War there were many different and elaborate systems of cryptography. Developing as well as cracking these systems was, however, more an art than a science. Shannon's great achievement in this work, was to disregard the particular examples of known systems and analyze the field from a mathematical viewpoint. Shannon is credited, because of this paper, with having transformed cryptography from an art to a science.

\$595



19 Blackett's Copy of Theory of Communication

Shannon, Claude and Warren Weaver. **The Mathematical Theory of Communication.**

Urbana: The University of Illinois Press, 1949. 240 by 160 mm (9½ by 6¼ inches). Maroon canvas boards; vii, [1], 117 pp. First Edition (lacking dust jacket). Large autograph: "P.M.S. Blackett" on flyleaf. Very good plus. A fresh and clean copy.

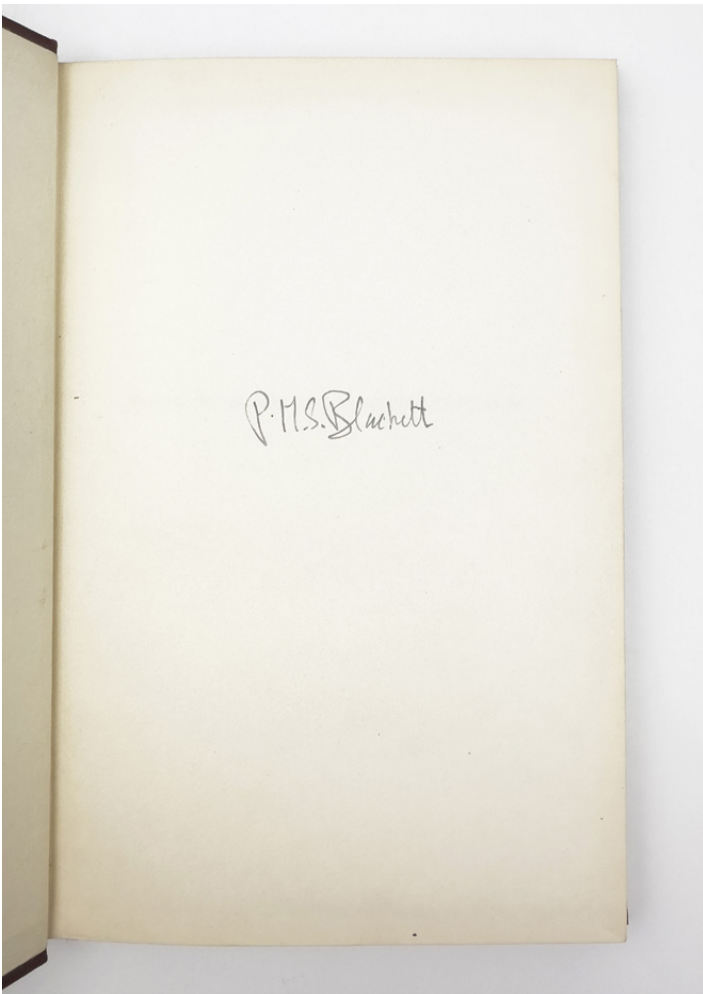
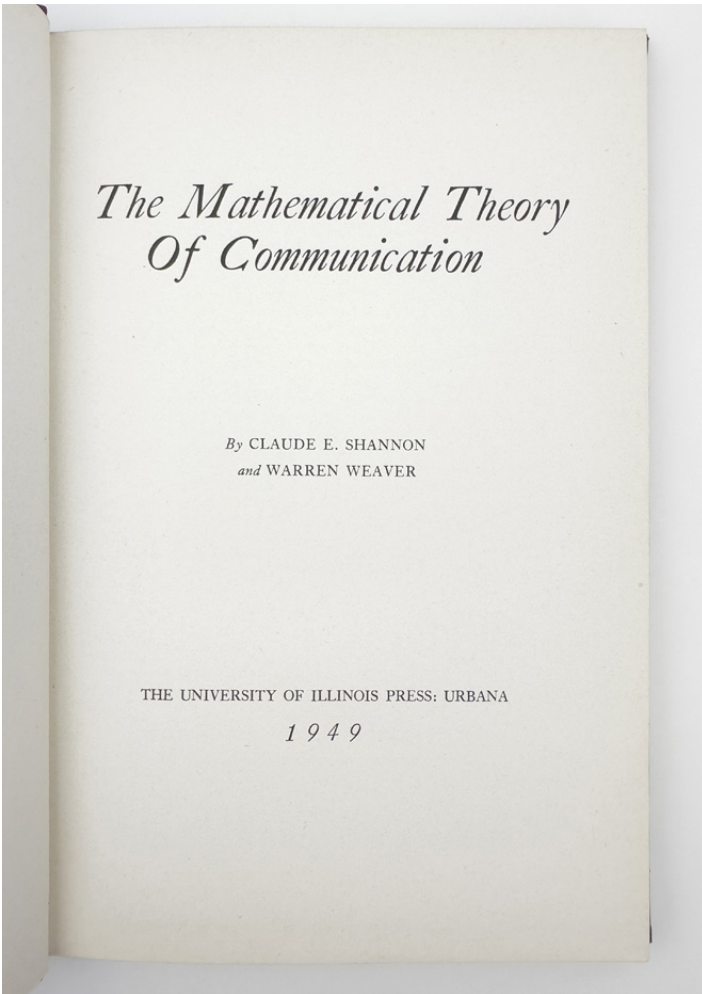
Considered "the magna carta of the information age" according to *Scientific American*, Shannon's work was the first to provide a general theory of communication applicable to telegraph, telephone, and computers. This work was responsible for introducing the term "bit" (for binary digit) into the published literature and for giving the term its current definition. This is the first time Shannon's work was presented in book format. Exceedingly important to the history of information and discussed at length in *Origins of Cyberspace*.

This copy was owned by British physicist Patrick M.S. Blackett (1897–1974) and bears his autograph. Blackett received the 1948 Nobel Prize in Physics and was the first person to prove that radioactivity could cause the nuclear transmutation of one chemical element to another.

Hook & Norman *Origins of Cyberspace*, No. 881.

An important book owned by an important physicist.

\$1,250



20 Inscribed by the Originator of Cybernetics

Wiener, Norbert. **Ex-Prodigy: My Childhood and Youth.**

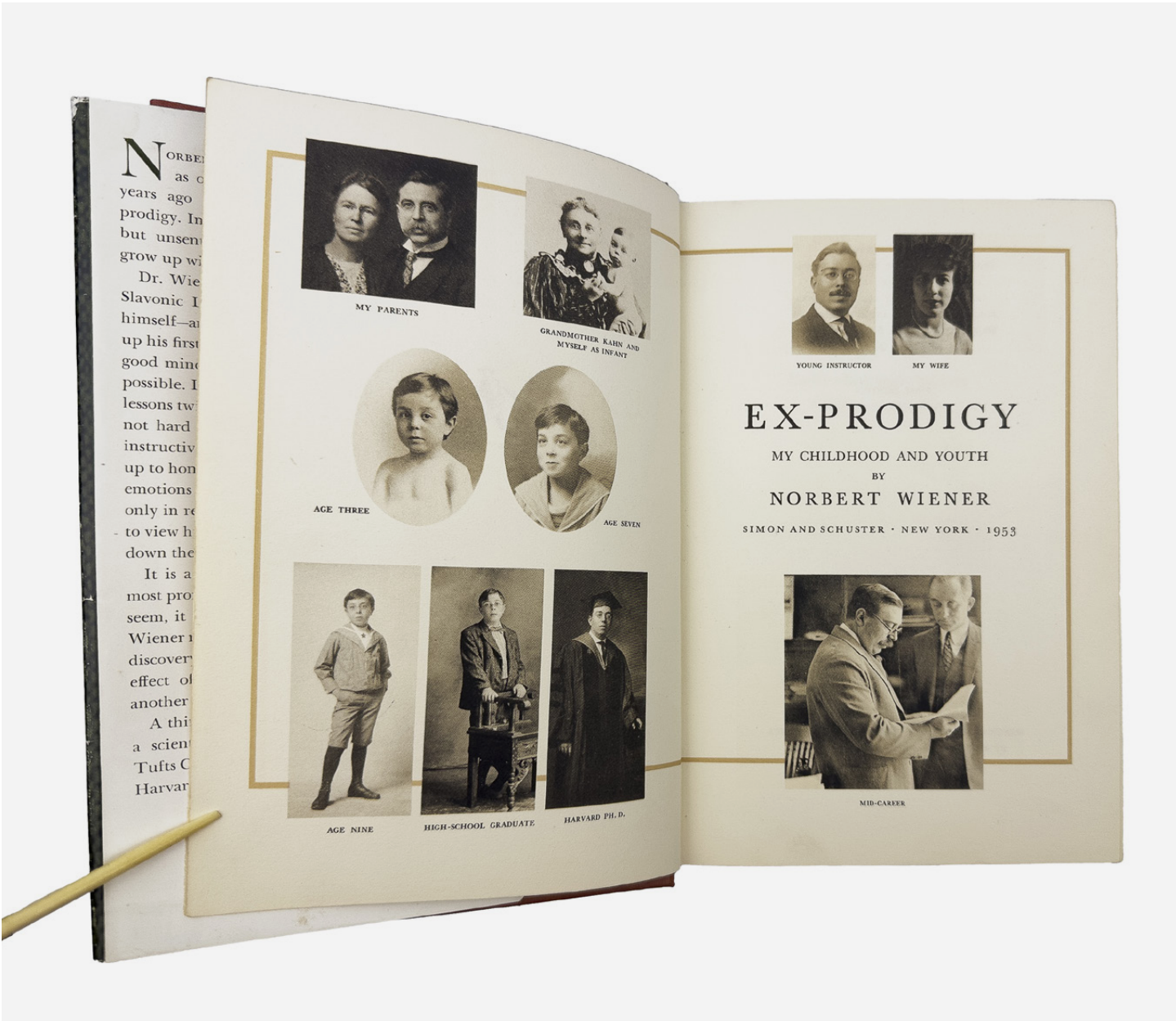
New York: Simon and Schuster, 1953. 210 by 145 mm (8¼ by 5¾ inches). Original red boards; xii, 309, [2] pp. With dust jacket. First edition of Wiener's autobiography. Inscribed on the flyleaf: "Norbert Wiener to his very efficient secretary Mrs. Barbara Cole." Very good with light water damage to top board. Dust jacket good.

Norbert Wiener (1894–1964) was an American computer scientist and mathematician. He is considered the originator of cybernetics, the science of communication as it relates to living things and machines. His work heavily influenced computer pioneer John von Neumann and information theorist Claude Shannon. Wiener was also a child prodigy, the experiences of which he details in this book.

Barbara Cole, to whom this book is inscribed, was Wiener's long term administrative assistance at MIT and likely significantly involved in all of Wiener's research projects.

Hook & Norman *Origins of Cyberspace*, No. 998.

\$395



21 Inscribed by Herbert A. Simon

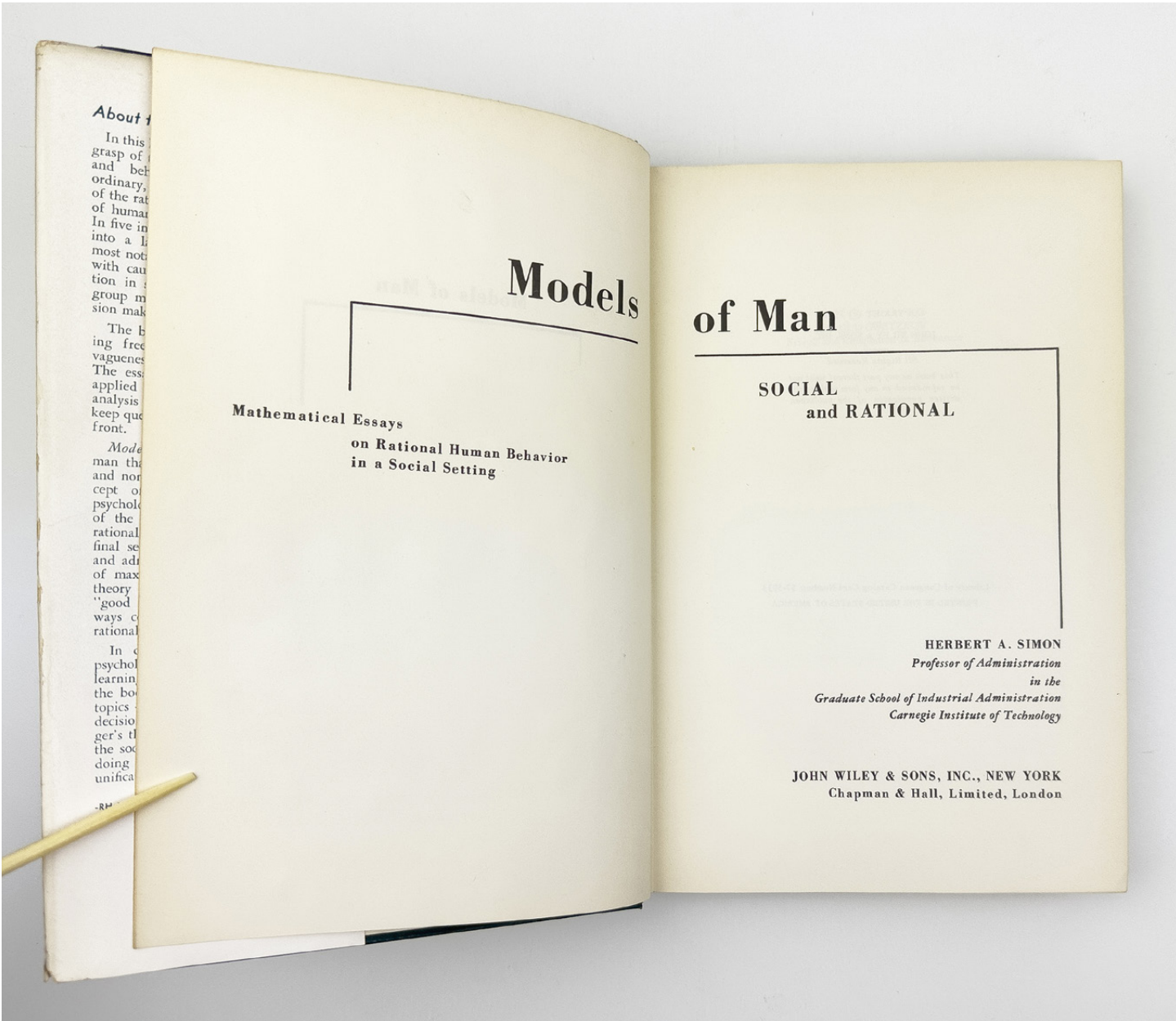
Simon, Herbert A. Models of Man. Social and Rational.

New York: John Wiley & Sons, 1957. 230 by 155 mm (9 by 6 inches). Original cloth boards; xiv, [2], 287 pp. With dust jacket. First edition. Inscribed: "To Richard Edwards, with best wishes, Herbert A. Simon." Owner's signature "Richard D. Edwards, Dept. of Mathematics, Univ. of Pittsburgh" on front pastedown. Very good with text block lightly wavy; dust jacket good with old water stains.

Herbert A. Simon (1916–2001) was a pioneer in the field of artificial intelligence and economics. He received both the Turing Award (1975) and the Nobel Prize in economics (1978). His primary research interest was decision-making and the mathematical modeling of rational human behavior—areas of study useful for both artificial intelligence and economic forecasting. This was his second book, and it presents mathematical models of human behavior. I.e. how to make computers more human. According to Google Scholar, Simon is the most cited person in research on artificial intelligence.

Simon inscribed this copy to his colleague Richard D. Edwards (1919–2006), a professor of mathematics at the University of Pittsburgh and later chairman of the McCune Foundation.

\$950



22 Dutch Digital Computer

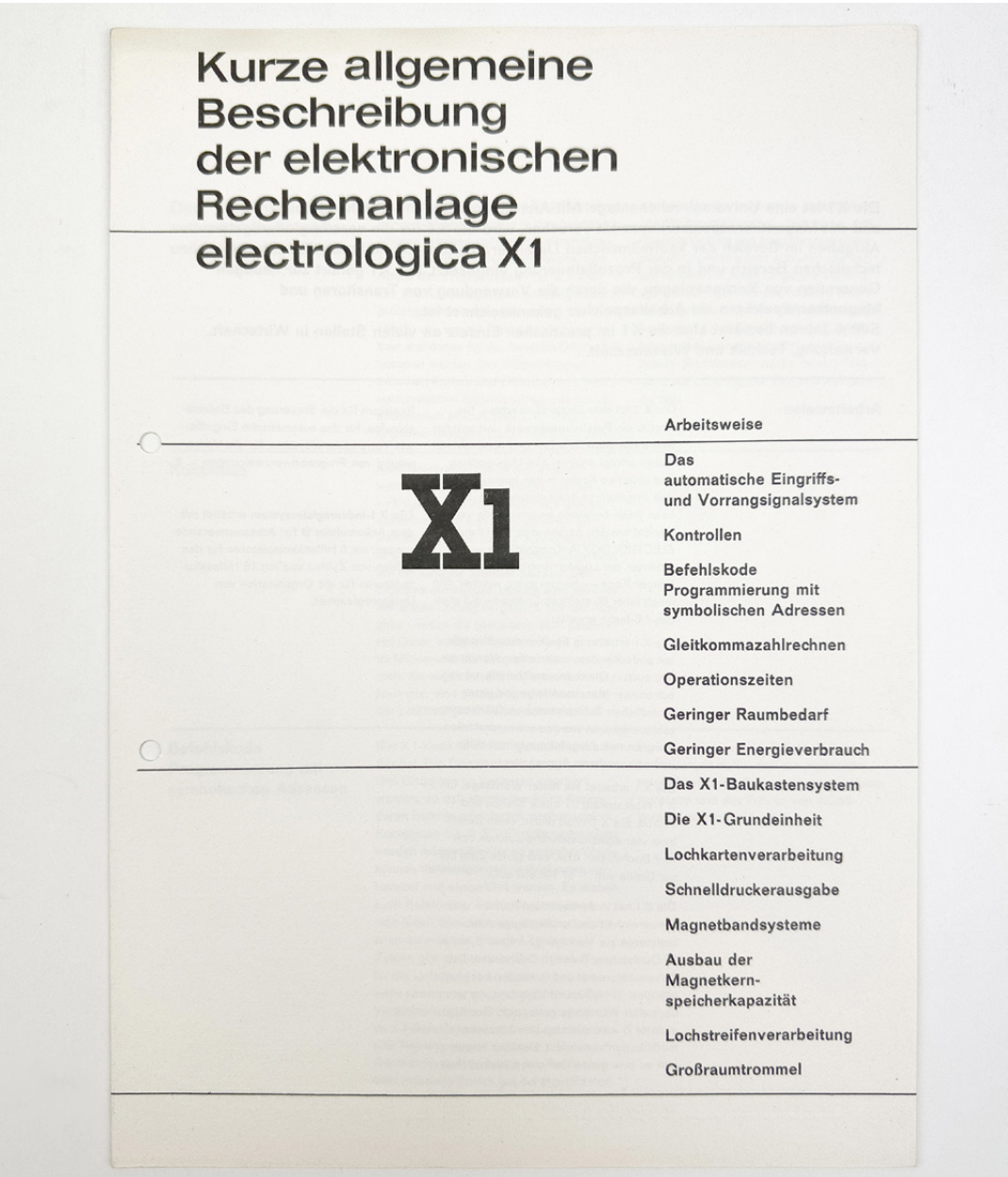
Kurze allgemeine Beschreibung der elektronischen Rechenanlage electrologica X1. [Short general description of the electric calculating machine Electrologica X1].

Düsseldorf: Electrologica GmbH, [1958–1965]. A4 sized brochure; [8] pp. including covers. In German. Two hole-punched.

An extensive description of the capabilities of the Electrologica X1. The X1 was a digital computer designed and manufactured in the Netherlands from 1958 to 1965. 30 were produced and sold.

The X1 was a solid-state binary computer ("completely transistorized") with magnetic core memory. Word length was 27 bits and peripherals included punched and magnetic tape. It was one of the first European computers to have an interrupt facility. The X1 was superseded by the X8. Electrologica was taken over by Philips a few years later.

\$75



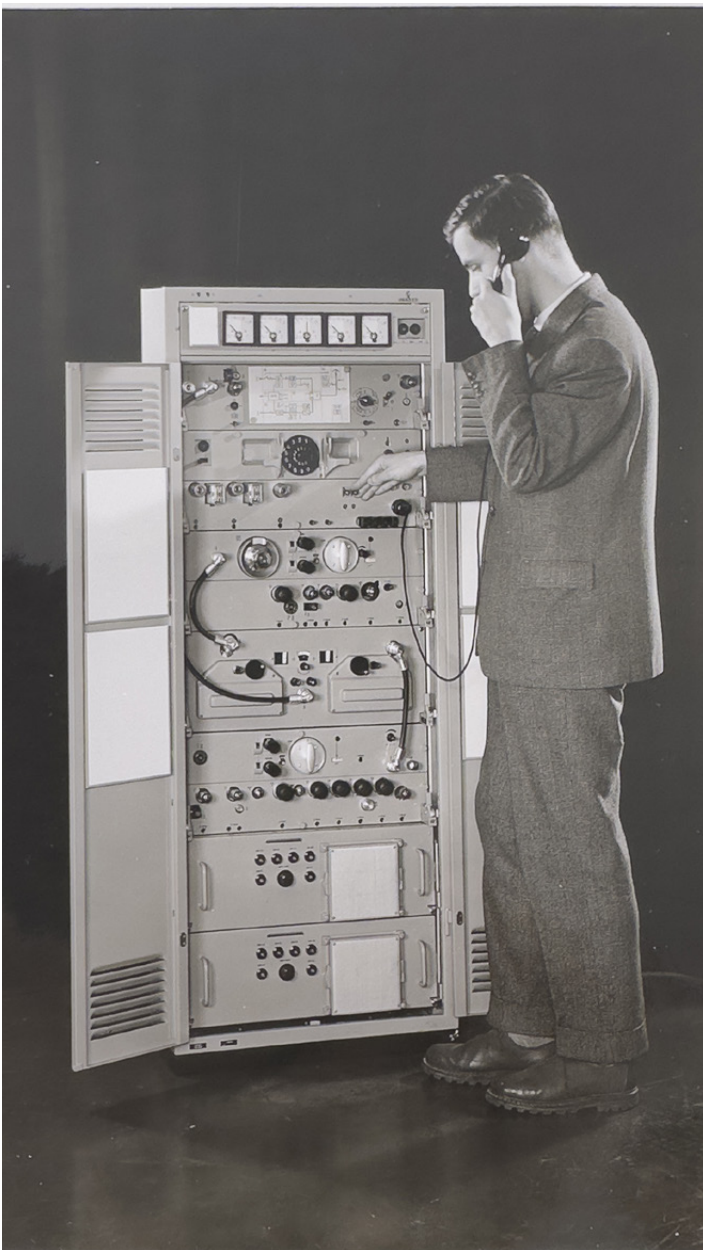
23 Flight Radio Communication

[21 Photographs of Radiolänkutrustning RL-41].

n.p.: Siemens Corporation, [1960s]. 170 by 120 mm (6¾ by 4¾ inches). Collection of 21 original silver gelatin photographs by Siemens Corporation of their Radio Link Equipment RL-41 and components along with an interoffice transmittal envelope.

The RL-41 radio link equipment was used in the late 1960's and early 1970s for radio connections with "pule phase modulation in the frequency of 1700 to 2300 MHz." This RL-41 is the Swedish edition "Radiolänkutrustning." That model was used by the Swedish Air Force for communication with its fighter planes (and presumably sold to other government agencies and major corporations in Sweden).

\$250



24 Introducing IBM

General Information Manual. Introduction to IBM Data Processing Systems.

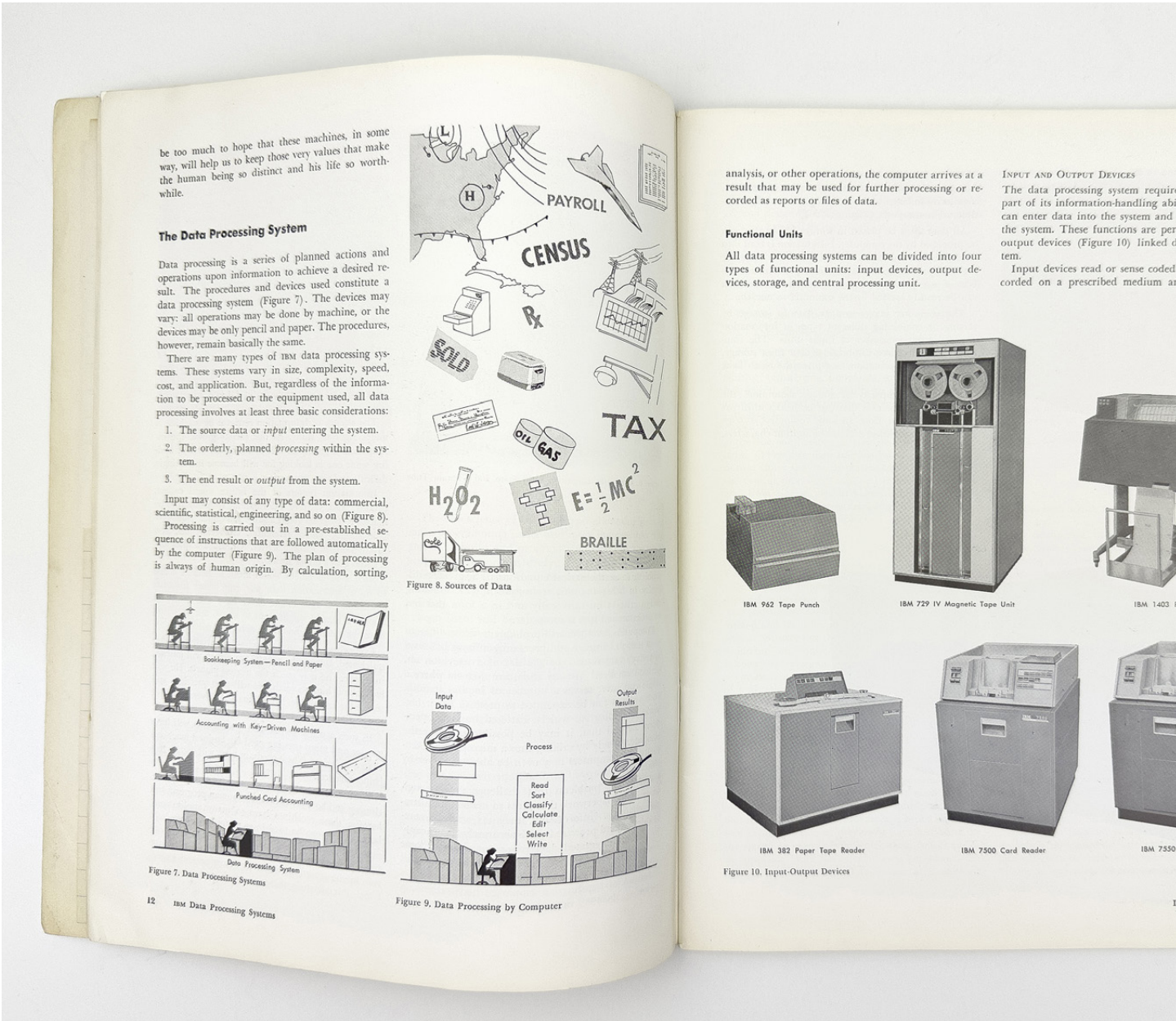
White Plains, NY: International Business Machines Corporation Data Processing Division, 1960. 280 by 215 mm (11 by 8½ inches). Original paper wrappers; 95 pp. (IBM manual number F22-6517).

Very good with some old paper clip stains.

Useful general overview of IBM systems covering data representations, CPU, input-output devices, stored program concepts, and programming systems. Examples nicely illustrated.

For detailed information on early IBM systems see Bashe, Johnson, Palmer & Pugh's *IBM's Early Computers*. Cambridge: MIT Press, 1986.

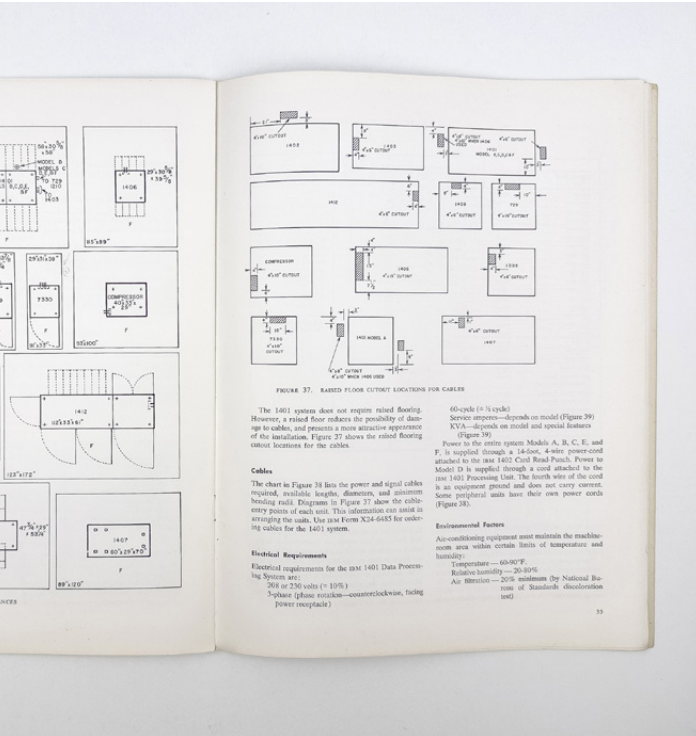
\$75



25 IBM's First Best Seller

Reference Manual. 1401 Data Processing System.

White Plains, NY: International Business Machines Corporation Data Processing Division, July 1960. 280 by 215 mm (11 by 8½ inches). Original paper wrappers; 141 pp. (IBM manual number A24–1403–0).



Together with, General Information Manual. 1401 Data Processing System. White Plains, NY: International Business Machines Corporation Data Processing Division. September 1960.

Original paper wrappers; 41 pp. (IBM manual number D24–1401–2). Very good. Reference Manual with light damage to spine and light damage to top 1/2 inch of back cover. Both books with minimal (mostly pencil) marginal notes.

The IBM 1401 was announced on October 5, 1959. The first member of the highly successful IBM 1400 series, it is considered the “Ford Model-T” of the computer industry. IBM was pleasantly surprised and perhaps shocked to receive 5,200 orders in just the first five weeks—more than was predicted for the entire life of the machine. The 1401 was commonly used by medium sized businesses for data processing and as a peripheral controller for mainframe computers.

This first “bestselling” IBM computer gave the computer industry a glimpse of the break neck growth to come.

Given the popularity of this computer it is surprising how scarce IBM 1401 reference manuals are. At the time of cataloguing, no other copies for sale. OCLC lists a handful of copies for 1961 and 1962 editions. a Swedish 1960 edition, and a different 300 page 1401 manual from 1960. We could not locate any holdings of our 1960 editions.

For an extensive write-up on the IBM 1401, see Bashe, Johnson, Palmer & Pugh's *IBM's Early Computers*. Cambridge: MIT Press, 1986.

Priced as a set.

\$295

26 French Analog-to-Digital Converters

Analog-to-Digital Converters for Angle Measurement.

Paris: SNE-RI, 1961. A4 sized brochure; [4] pp. including covers. Illustrated. Together with the [4] pp. German translation.

In general, the role of an analog-to-digital converter (ADC) is to transform an analog signal into a series of numeric codes that represent the amplitudes of the samples of the analog signal. They were an important component in early mainframes. This is the 1961 English language brochure for the French SNE-RI's analog-to-digital converter (together with a German translation of the brochure).

\$75



27 Early Off the Shelf Computers

Elektronisches Rechnen jetzt durch LGP-30 weiten Kreisen zugänglich! [Electronic calculations are now widely available through the LGP-30!].

Minden, Germany: Eurocomp GmbH, [1961?]. Double-sided A4 sheet with illustrations of the LGP-30 and Libratrol 500 computer systems. In German.

The LGP-30 is an early off-the-shelf computer manufactured in Glendale, California. It was first released in 1956 at a retail price of \$47,000. It operated with magnetic drums and vacuum tubes. The Libratrol 500 was designed to electrical grid and power plant controls. This brochure attempted to introduce the machines to the German market.

\$75



28 1961 & 1962 Honeywell Brochures

Honeywell Systeme für Datenverarbeitung [and] Honeywell-Produktionsprogramm. [Honeywell Systems for Data Processing and Honeywell Production Capabilities].

Frankfurt: Honeywell GmbH, 1961 & 1962. Set of two small-format brochures. Both 6 panel tri-fold. In German. The one brochure highlights the Honeywell H400, H800 and H1800 mainframes. The second brochure discusses Honeywell's capabilities. Nicely illustrated throughout.

Honeywell entered the computer business when, in 1955, it formed a joint venture with the Raytheon Manufacturing Company to create the Datamatic Corporation. In the early 1960s, Honeywell bought out Raytheon's interest and purchased the Computer Control Corporation to further add to its product line. At this point they had machines that competed directly with those of IBM. Only a few of the machines were sold—for example, 89 units of the H800 were delivered.

\$95



29 Swedish Jets, Mainframes & Cars

Informationen über SAAB. [Information on SAAB].

Linköping, Sweden: SAAB, 1961. A4 sized tri-fold brochure with 6 panels. In German. Nicely illustrated with fighter jets; a main-frame (the "SARA"); and, cars.



SAAB, originally Svenska Aeroplan Aktiebolaget—the Swedish Airplane Corporation was initially known for producing fighter jets and later cars. Starting in the 1950s they also manufactured mainframes. The "SARA" mainframe went into operation in 1957 and was primarily designed for missile control systems.

\$75

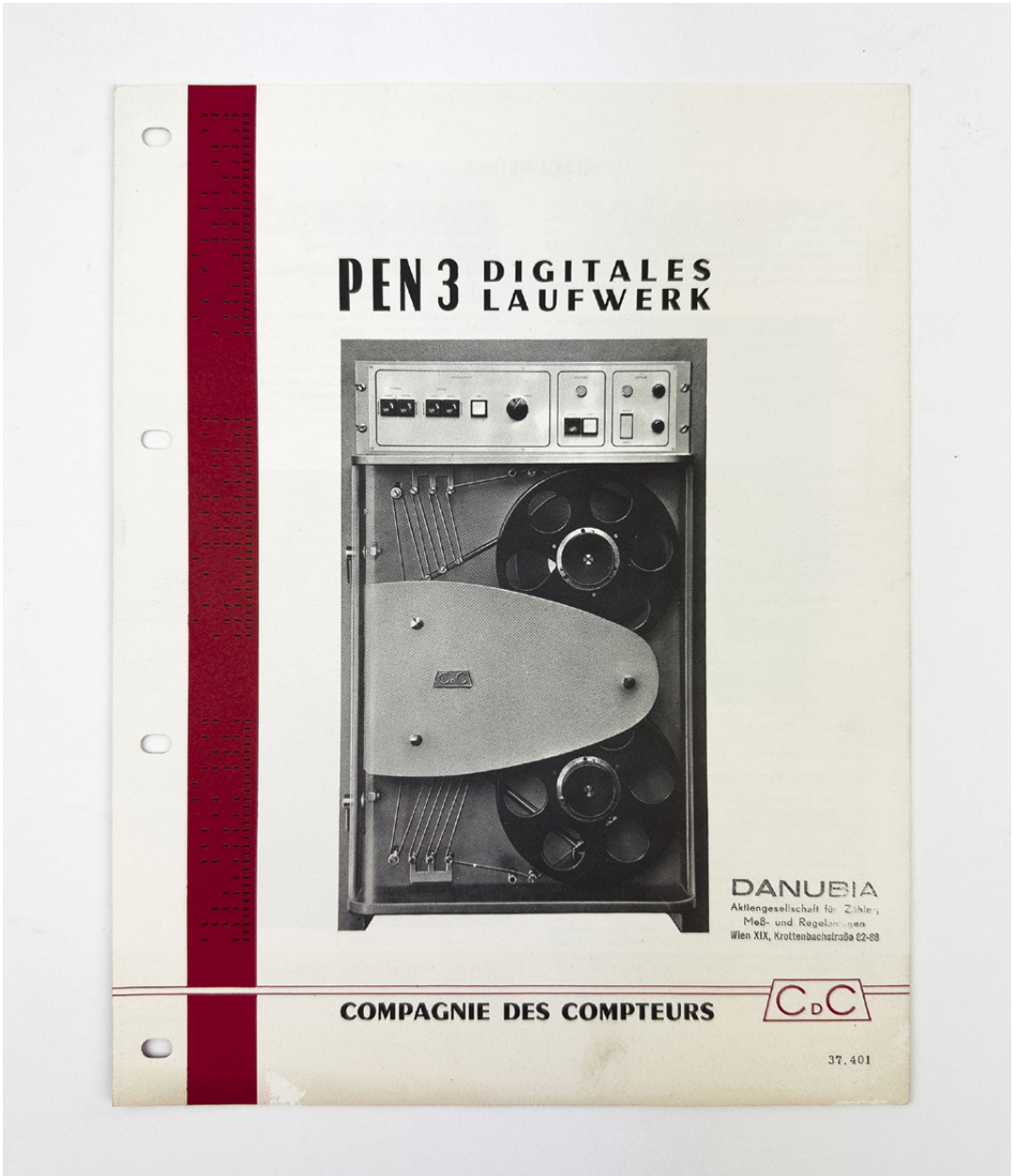
30 French Magnetic Tape Data Readers

PEN 3 Digitales Laufwerk. [PEN 3 Digital Drive].

Montrouge, France: Compagnie des Compteurs, May 1961. A4 sized brochure; [4] pp. including covers. In German. 4-hole punched. With four illustrations of the PEN 3 system.

Compagnie des Compteurs was a French water and electrical meter company that briefly manufactured computer components including this "Pen 3" magnetic tape reader system for mainframes. This is the German language brochure advertising the new "digital drive."

\$75



31 1962 Swedish Computer

D21 Data Processing and Computer System.

Linköping, Sweden: Saab Techn. Publ. Dept., 1962. A4 sized brochure; [4] pp. including covers. With a nice cover illustration of a man in a suit operating the D21.

SAAB, originally Svenska Aeroplan Aktiebolaget—the Swedish Airplane Corporation was initially known for producing fighter jets and later cars. Starting in the 1950s they also manufactured mainframes. The D21 was the first computer that SAAB sold to civilian customers. It was also the first production model computer to be manufactured in Sweden. This is the English language sales brochure of the D21.

\$75



32 1962 Ferranti Computer Pamphlets

Ferranti. ARGUS 100 Digital Computer Systems [together with] Ferranti. Rechenmaschinen. Systeme und Kundendienst.

England: Ferranti Ltd, 1962. 210 by 100 mm (8¼ by 4 inches). Two Brochures; [6] + foldout; [6] + foldout. One brochure on the Argus 100 with foldout technical diagram of the computer (in English) and further identified as “No. 8 in a series of Computer System Profiles.” The other, a general overview of Ferranti computer systems from 1950–1961 with a foldout timeline (in German) and further identified as “Ein Abriss des heutigen Standes unseres Fortschritts” (“A summary of the current state of our progress” trans.).

Ferranti is famous in the computer industry for building the first commercially available computer, the Ferranti Mark 1, which was released in 1951. Ferranti remained in the computer business into the 1970s. Alan Turing was a consultant for Ferranti from 1948 until his death in 1954. The Argus 100, released in 1963, was intended for “process control use,” for example: controlling telescopes, controlling chemical processing plants, and controlling surface to air missiles.

For more on Ferranti, see Hook & Norman *Origins of Cyberspace*.

\$125



33 French Analog Computers

Die modernen Rechenhilfen und Untersuchungsmittel des Ingenieurs. [The modern computing aids and research tools of the engineer].

Paris: Analac, [1962–1964]. 250 by 210 mm (9¾ by 8¼ inches). Illustrated tri-fold brochure with 5 panels. In German. General information brochure.

Analac was an obscure French analog computing company. Although the basic technology for analog computers is usually operational amplifiers (also called “continuous current amplifiers” because they have no low frequency limitation), in the 1960s an attempt was made in France by ANALAC computers to use an alternative technology: medium frequency carrier and non-dissipative reversible circuits. This brochure discusses their advances in analog computing for engineers.

\$75



34 1962 High Volume Printer

Siemens-Schnelldrucker.

München: Siemens & Halske AG, [1962]. 295 by 200 mm (11½ by 7¾ inches). Illustrated tri-fold brochure with 6 panels. In German. Sales brochure.

The 1962 Siemens-Schnelldrucker was a mechanical type wheel line printer with “mechanical storage of print energy.” In essence, a very fast printwheel typewriter. According to the brochure, the printer ran at 90,000 lines/hour. It was designed for printing a high volume of checks, pay stubs, and other business documents. A small detail: it weighed 400 kg (882 lbs!).

\$75



35 Early Soviet Machine Translation

Chkhaidze, M.P. [Mikhail Pavlovich]. *Algoritm gruzinskogo sinteza pri mashinnom perevode s russkogo iazyka*. [Algorithms of Georgian Synthesis for Machine Translation from Russian].

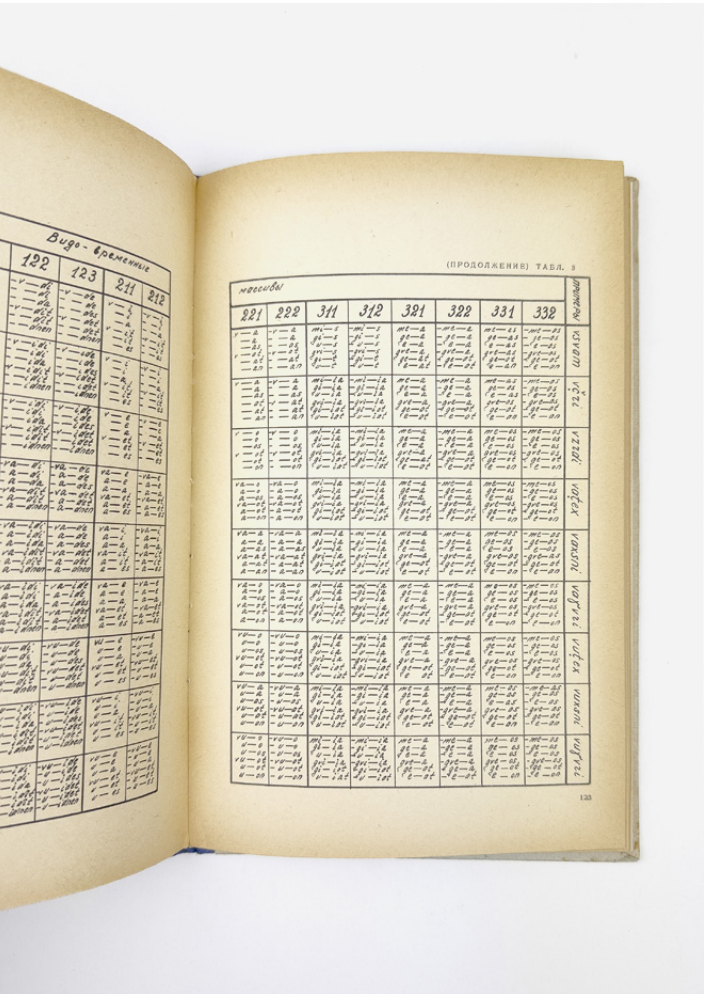
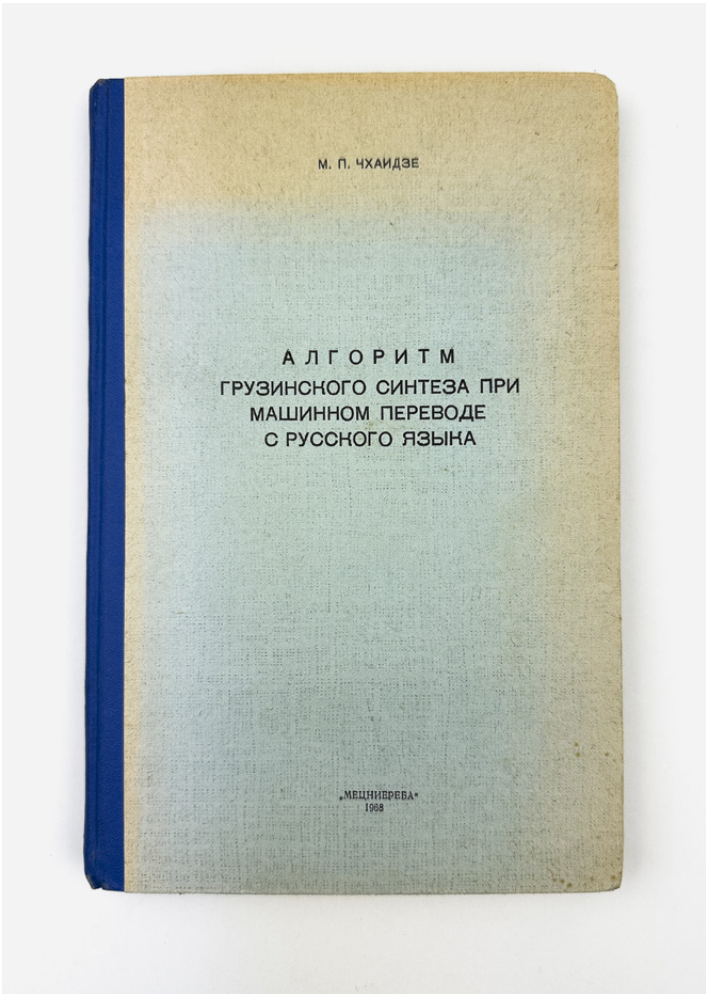
Tbilisi: Metsniereba, 1968. 260 by 170 mm (10¼ by 6¾ inches). Original boards; 177 pp. + three fold-out plates measuring 17 by 13 inches each. In Russian. Added title page in Georgian. Includes bibliographical references on pages 28–29. Roughly half of the book comprises translation tables.

On algorithms for machine translation from Russian to Georgian. Printed by the resolution of the editorial and publishing council of the Academy of Sciences of Georgia—Computer Center.

During the late 1950s through the 1970s the Soviet Union was the world leader in efforts to implement machine learning translation for the disparate languages making up their union. See for example Michael D. Gordin's 2020 article "The Forgetting and Rediscovery of Soviet Machine Translation" and John Hutchins's 2012 article "Historical Sketch of Machine Translation in Eastern and Central Europe."

OCLC number: 16260918.

\$495



36 "A Nice Jewish Computer"

Tatkin, Allen G. *Trials and Tabulations of a Jewish Computer*.

Los Angeles: RDE Publications, 1969. 210 by 140 mm (8¼ by 5½ inches). Original illustrated wrappers; [64] pp. Extensive illustrations throughout. Slight soil specks on front wrap; rear cover a tad rubbed.

Odd, illustrated book in which a man is convinced by a Jewish astronaut to purchase a "Nice Jewish Computer" to act as his surrogate Grandmother.

What is the IBM sign on the Machines?

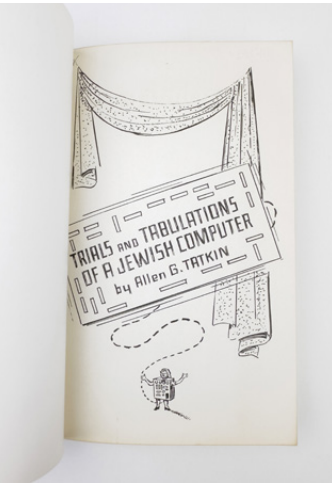
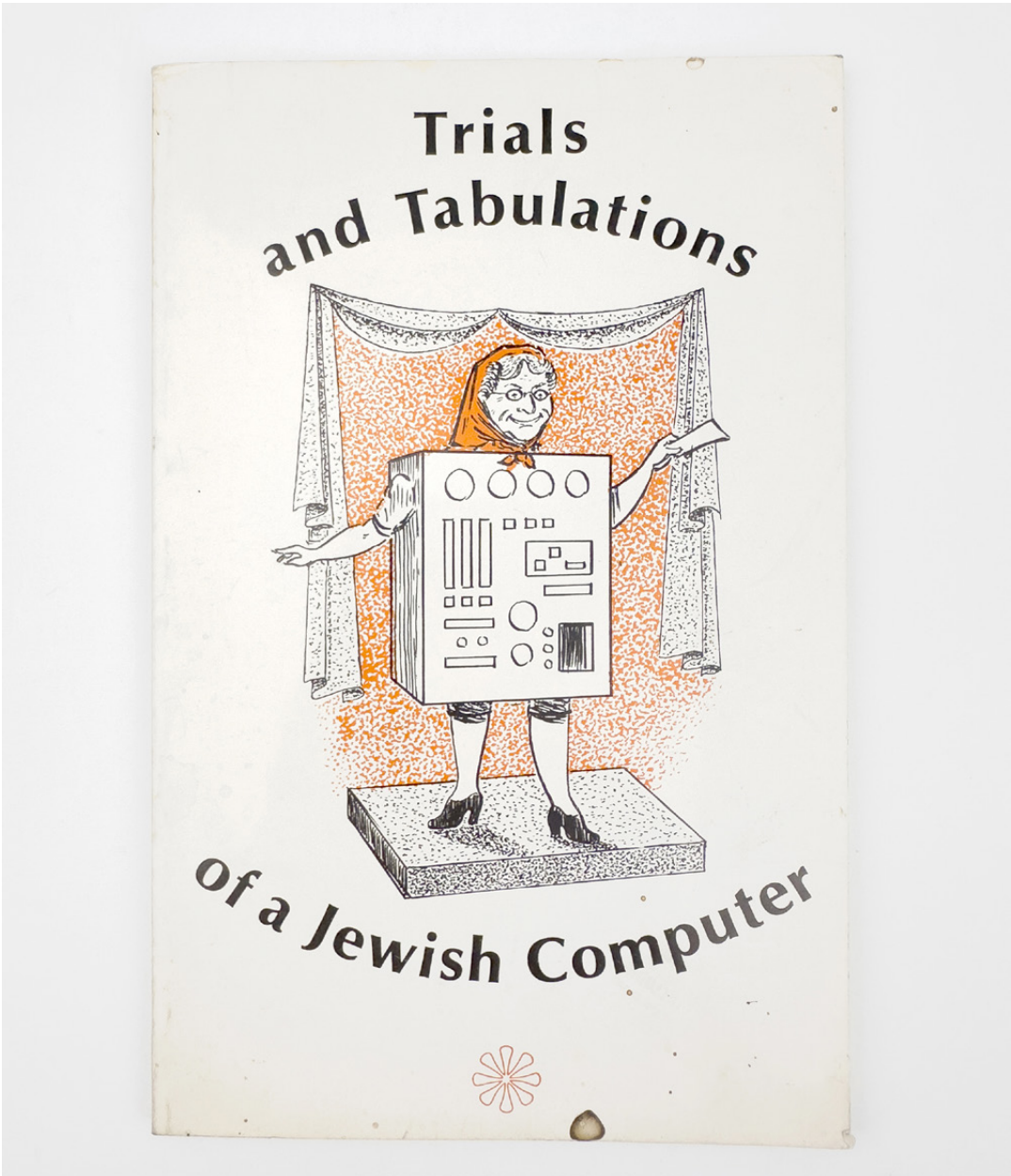
Why 'INUSE BEFORE MOSES" is what it means.

Because how else did our people know when to flee?

Know about that lighted desert, that open Red Sea?

At the time of cataloguing, no record in OCLC.

\$195



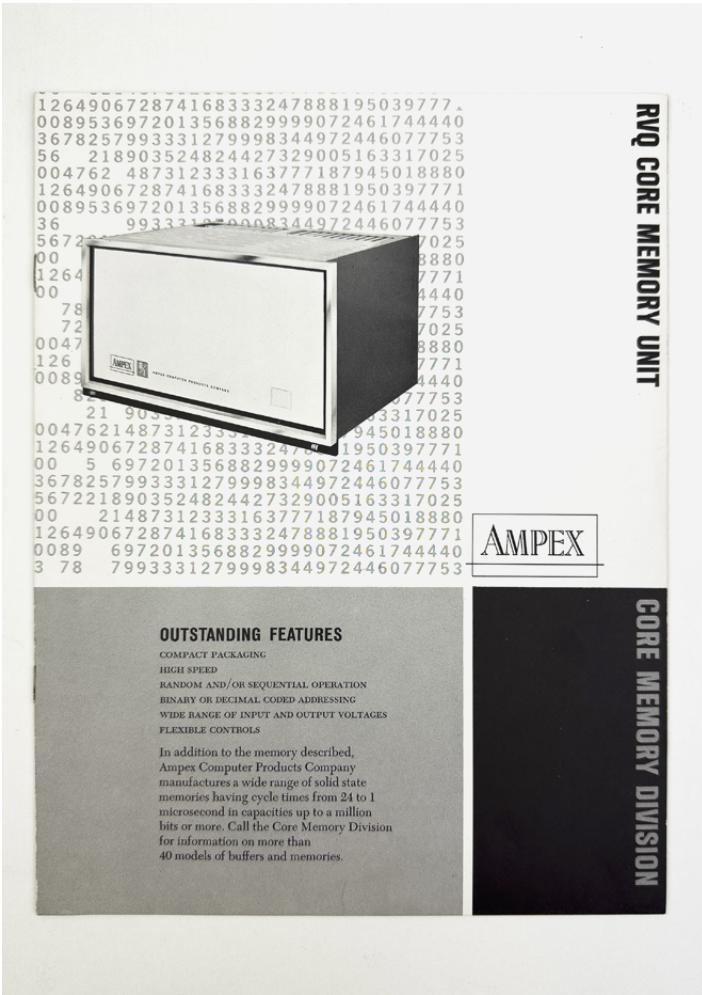
37 AMPEX Sold State Storage & Magnetic Recorders

RVQ Core Memory Unit [and] Who can give you magnetic recorders, tape and memory devices for every application?

Redwood City, California: Ampex, [1970?]. Letter-sized brochure; [8] pp. including covers. Together with a small format leporello with 20(!) photo-illustrated panels.

Ampex started in 1944 manufacturing reel-to-reel tape recorders and then moved into data storage. These are two brochures: one for the RVQ Memory Unit “designed for use in data systems that require small-to medium storage capacities.” It was a solid-state storage unit capable of storing up to 4096 words. The leporello brochure advertises Ampex’s magnetic tape systems with applications ranging from household needs to professional recording studios.

\$95



38 Kill the Computers; Save the Environment

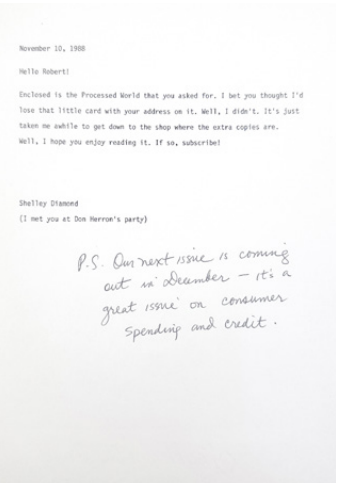
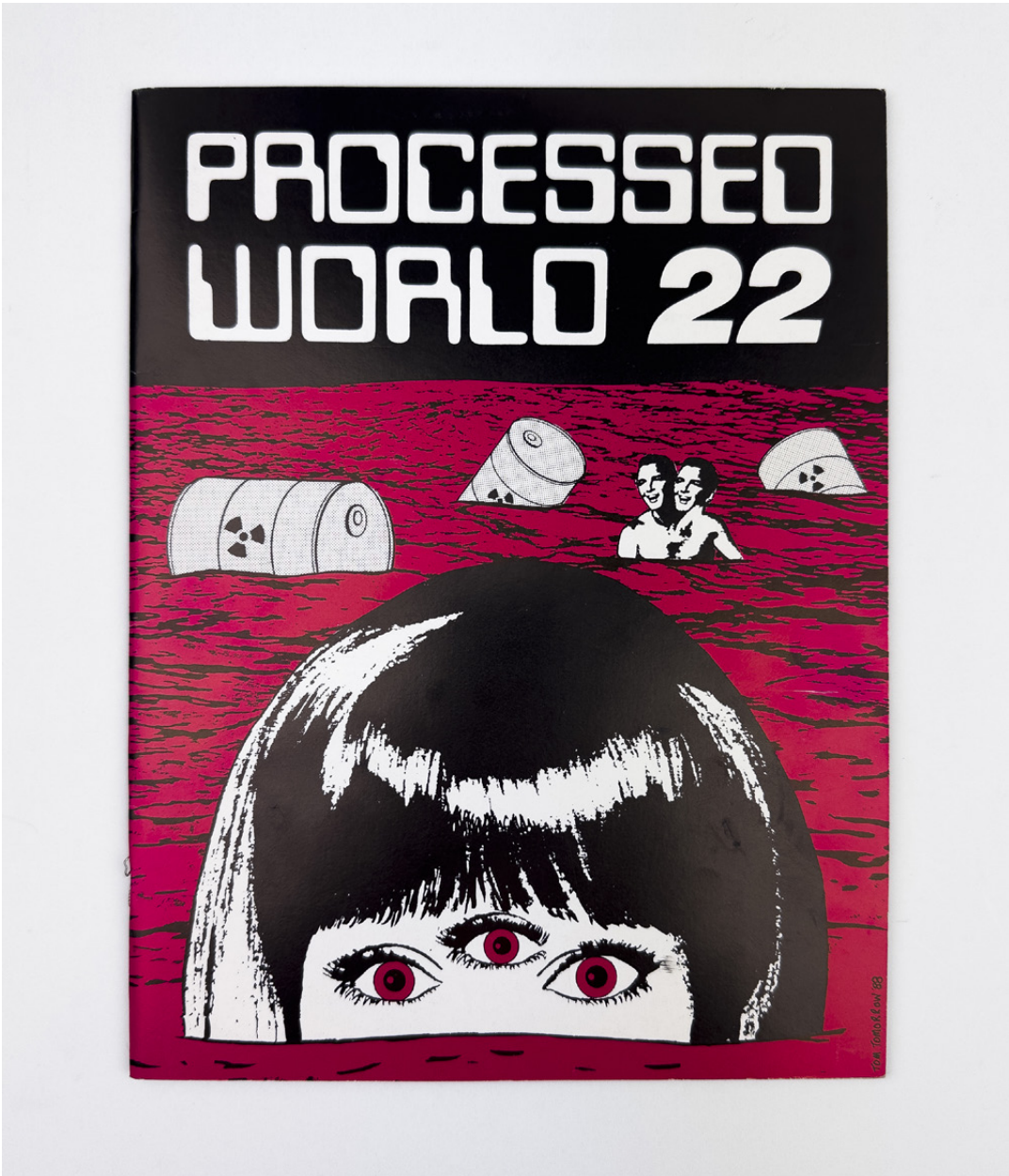
Processed World 22 [single issue with association letter].

San Francisco: Bay Area Center for Art & Technology, Summer 1988. 270 by 210 mm (10¾ by 8¼ inches). Magazine; 48 pp. This issue mostly on ecology. Together with a November 10, 1988, typed letter from Shelley Diamond to “Robert,” with four lines in pen regarding the next “great issue on consumer spending and credit.” Heavily illustrated with cartoons and photographs.

Processed World was an anti-authoritarian magazine focused on the oppressions and absurdities of office work. It’s a cultural critique of the digitization and automation of our lives through computers and office machines and an important documentation of backlash to tech in early Silicon Valley.

The included letter is by Shelley Fern Diamond (1957–2022). She was a San Francisco based psychologist active in LGBTQ+ rights and as a “member of the collective” for *Processed World*. Her papers are at UCSF.

\$40



39 Homebrew Computer Club & Respect for Earth

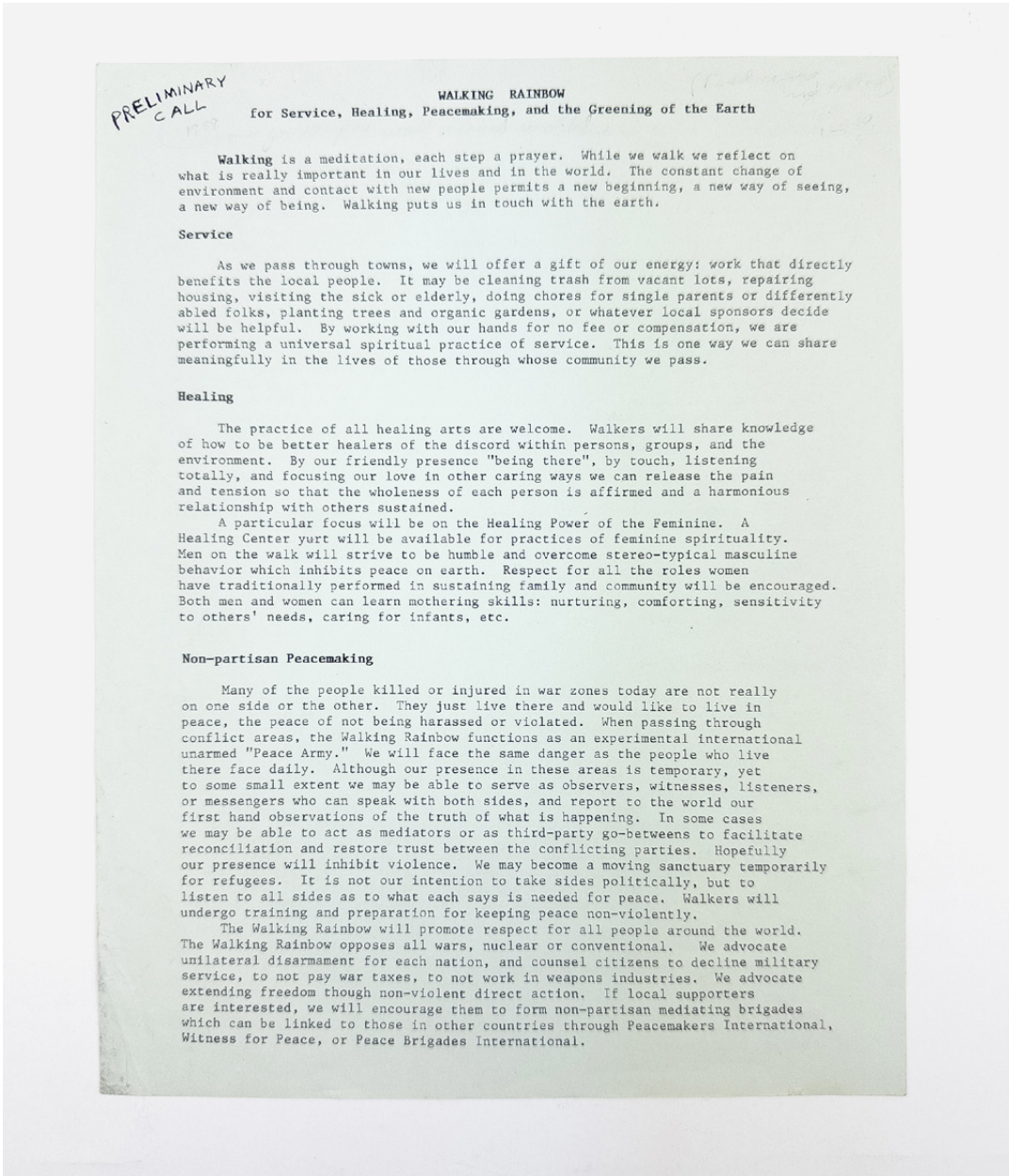
[Moore, Fred]. Walking Rainbow for Service, Healing, Peacemaking, and the Greening of the Earth.

San Francisco: Peacemakers International, [1989]. Double-sided letter-sized flyer.

Fred Moore (1941–1997) was a central figure in the history of the personal computer. He was an active member of the People’s Computer Company and a founder of the Homebrew Computer Club. In addition to his involvement in computers, Moore was an ardent peace activist. This flyer is his 1989 “Preliminary Call” for a 10 year walk around earth. A noncommercial project to promote respect for each by living simply in harmony with nature.

Moore is prominently featured in the books *What the Doormouse Said* by John Markoff and *Hackers: Heroes of the Computer Revolution* by Steven Levy. See also the documentary *Walking the Rainbow: Fred Moore Remembered*, a film by Markley Morris.

\$250



40 Facebook = NSA

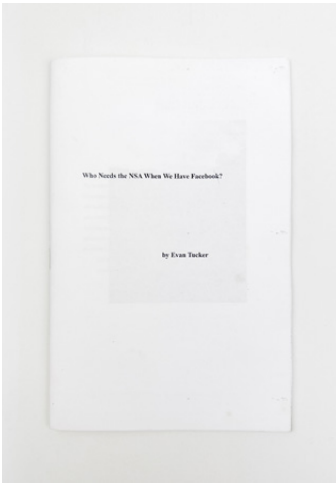
Tucker, Evan. *Who Needs the NSA When We Have Facebook?*

Sacramento: Sacramento Prisoner Support, [2012?]. 215 by 140 mm (8½ by 5½ inches). Photocopied zine; [36] pp. With two black & white copied photo illustrations. Very good with miniscule stains to covers.

Essay in zine format originally published in the book *Life During Wartime—Resisting Counterinsurgency* in 2012 by AK Press. Explains the dangers of social media and big data. Social media allows for the mapping of all intersocial connections and thus operates as the perfect spy tool for the US Government.

Published by Sacramento Prison Support, a small anarchist collective that provides support (and reading material) for political prisoners—especially trans prisoners facing discrimination. Presumably this zine was created to mail to prisoners.

\$75



Terms

Please call +1 206 632 1535 or email mark@funkebooks.com to reserve an item. By placing an order, you agree to these terms.

All items are subject to prior sale and remain our property until payment has been received in full. All items are guaranteed as described and may be returned within five days of receipt, only if packed, shipped, and insured as received. We kindly ask for advance notification of any returns.

See individual items for language information. Quotes are provided for emphasis and may be translated from their original language.

Shipping and insurance are additional and depend on value, weight, and destination. California State residents not holding a resale license are subject to additional state and local taxes. International orders may be subject to value added tax (VAT) and customs duties.

Payment can be made by checks drawn in USD, wire or ACH transfer to our US account, and via MasterCard, Visa, American Express, or PayPal. Arrangements may be made to pay in Euros or Swiss Francs.

Payment is due at the time of order, unless otherwise agreed.

References may be required of anyone ordering for the first time. ILAB dealers and dealers known to us may deduct their reciprocal discount, provided the account is paid in full within 30 days; thereafter the price is net. Institutions may receive deferred billing to suit their needs.

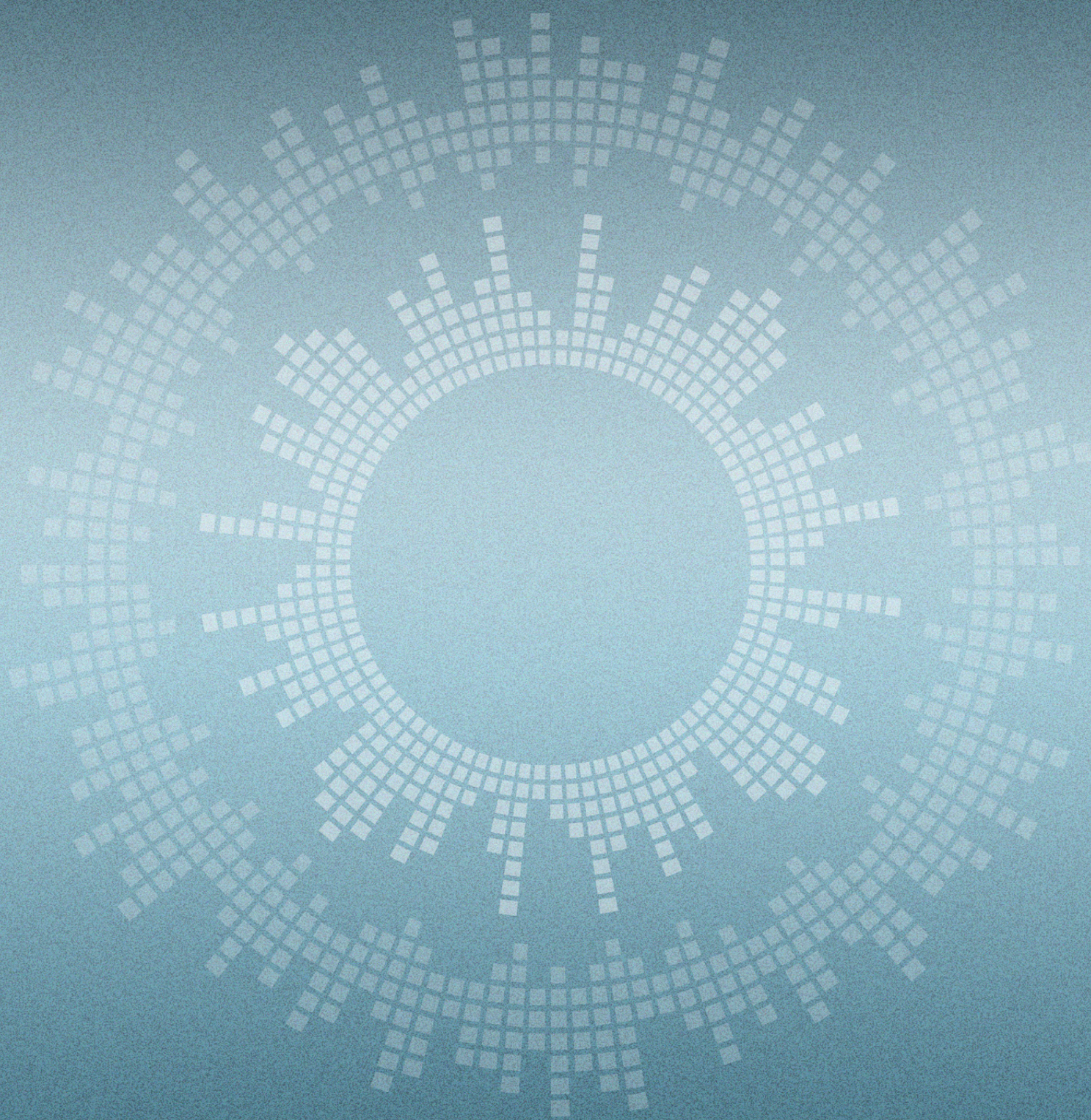
Credits

Cataloguing & research by Mark Funke

Catalogue design by Joanna Funke

Typeset in Akzidenz-Grotesk Next





mf